CHNOLOGY DEPARTMENT

# NEW EQUIPMENT DIGEST

A PENTON PUBLICATION

EQUIPMENT • IMPROVEMENTS • PROCESSES • MATERIALS • METHODS • APPLICATIONS • LITERATURE

Vol. 12 July, 1947 No. 7

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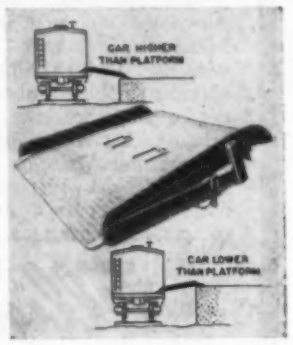
1947
DETROIT

## HEAVY DUTY BRIDGE RAMP




Designed for use with fork lift trucks, this One Man bridge ramp has load capacity of 15,000 pounds and can be transported to location between platform and freight car or between two freight cars on the forks of any standard fork truck. Lift handles drop in place to provide flush riding surface when truck is removed. Locking pins hold unit firmly in position.

Bridge ramps are available in sizes to span gaps from 5 to 58 inches wide with differential in heights up to 7 inches. Riding surface is nonslip steel plate reinforced by shock plates at corners. Side stringers afford rigidity and act as safety guard. Made by **Elizabeth Iron Works**, P. O. Box 360, Elizabeth B, N. J.

▲ Mention Item NED-3902 when writing ▲

## PHOTOELECTRIC COUNTER

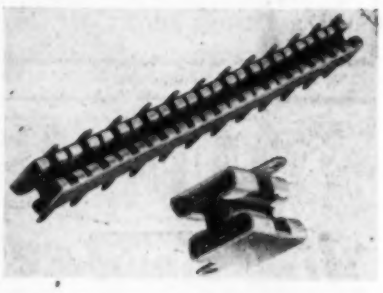
Applicable to bottling, canning, textile, automotive and parts manufacturing industries, this model No. 153 photoelectric counting device is compact, easily installed packaged

unit. Light source, phototube and counter are built in single housing. Control operates on interruption of reflected light from swivel type adjustable, chrome reflector. Operation is on 115-volt, 60-cycle current. Sensitivity adjustment permits setting for various light intensities.

Maximum number of counts before returning to 0 is 99,999. Relay will carry load of 3 amperes continuously for 8 million impulses. Minimum time for one cycle is 0.08-second which is rate of 700 cycles per minute. Made by **Ripley Co.**, 437 Factory St., Middletown, Conn.

▲ Mention Item NED-3903 when writing ▲

## VIBRATION DAMPING MOUNT



Light duty X-shaped rubber Rexon vibration dampening mounts will isolate vibration in radios, electronic equipment, test apparatus and other electrical equipment. Mounts are capable of handling dead weight loads as low as ½-pound per lineal inch. X-shaped rubber element acts in shear at points of the X under normal loading but in compression when load exceeds rated capacity of mount.

Mounts are furnished in strips 12-inches long. Entire strip can be used or it can be cut into virtually any length section in inch multiples depending on load to be supported. Drilled mounting lugs can be positioned to fit almost any type of mounting. Made by **Hamilton Kent Mfg. Co.**, Twin Lakes Dr., Kent, O.

▲ Mention Item NED-3904 when writing ▲

## In This Issue

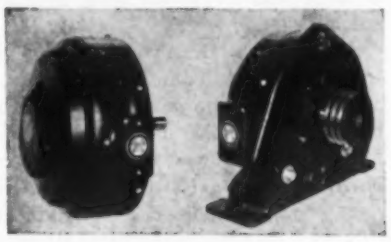
EDITORIAL CONTENTS—

New Equipment ..... Pages 1-48
New Processes and Materials ..... Pages 49-53
New Literature and Catalogs ..... Pages 54-59, 64

INDEXES—

Product Index ..... Pages 60-61
Advertisers' Index ..... Pages 62-63

## AXIAL AIR-GAP MOTORS



Departing radically from so-called conventional design, axial air-gap electric motors are available in 1/3 to 10-horsepower sizes, have length approximately one-half that of equivalent NEMA frame sizes of same power and speed rating, and weigh 30 per cent less. Motor is primarily a flange mounted unit suitable for horizontal or vertical operation. Angle base can be supplied for belt drive applications.

Both rotor and stator cores are coiled from strip steel into thick disks and are of equal diameter. Strip is punched at proper intervals just prior to winding so that slots line up. Centrifugally cast "copperspun" rotor construction is used and rotor has fan which is integrally cast with spider. Most coil extensions are on outside for efficient cooling. Simple removal of cover facilitates inspection, lubrication or cleaning.

Because flywheel effect of this motor is approximately three times that of corresponding conventional motors, it can be used advantageously on such applications as punch presses, oil well pumps, etc. However, this effect is disadvantageous on applications involving repeated plugging and reversing. Magnetic pull between rotor and stator is taken by double row thrust ball bearing.

Speed-torque characteristics and operating performance are comparable in all respects to those of standard motors. This motor is not intended to supersede or displace conventional motors in general industrial applications. It does have definite advantages of size, weight and shape where overhang reduction, accuracy of mounting or low height in vertical applications are design considerations. Made by **Fairbanks, Morse & Co.**, 600 S. Michigan Ave., Chicago 5, Ill.

▲ Mention Item NED-3905 when writing ▲

## ELECTRIC WIRING SELECTOR

Quick means of selecting electric conductor of adequate amperage carrying capacity under varying wiring and load conditions is provided by this Paranite Conductor Selector slide rule type guide. Unit eliminates need for involved mathematical calculations. Comparisons with various types of wire are given. Findings for types R, RW, T and W are ascertained on face of instrument, and findings for type RH are located on reverse side. Guide is available free of charge from **Essex Wire Corp.**, Ft. Wayne, Ind.

▲ Mention Item NED-3906 when writing ▲

## Do YOU Know

■ LOW cost, lightweight, noncombustible, resilient Fiberglas Superfine PF material type A44 when used as filler in railroad, aircraft, motor coach and automobile seat and seat back cushions provides excellent overall riding qualities. Fibers of material are treated with resin binder and are formed into 1-inch thick blankets of 0.5-pound density. Made by Owens-Corning Fiberglas Corp., Nicholas Bldg., Toledo 1, O.

▲ Mention Item NED-3907 when writing ▲

Sixteen-millimeter sound motion picture "Up and Over" portrays use of overhead handling equipment from simplest application to completely automatic systems. Development and application of MonoRail type crane is shown and described also with sequence showing operation of interlocking mechanism for passage of carrier beyond crane bridge. Available for showing from American Monorail Co., 13116 Athens Ave., Cleveland 7, O.

▲ Mention Item NED-3908 when writing ▲

Unpleasant odors of fresh paints are claimed to be neutralized by series of masking fragrances known as Paint-O-Dors. Added to vehicle or thinner during manufacture of paint, products include ten deodorants and aromatic mixtures. Cost ranges from 1 to 4 cents per gallon. Developed by Givaudan-Delawanna, Inc., 330 W. 42nd St., New York 18, N. Y.

▲ Mention Item NED-3909 when writing ▲

## Read Carefully
CHECK AND PASS ON

| ✓ | NAME AND TITLE | SEE ITEM NO. |
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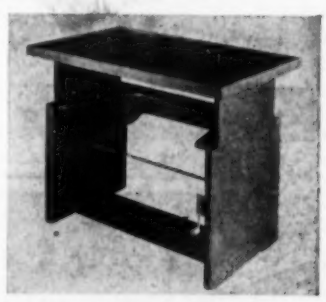
## GRAVITY WHEEL CONVEYOR

Lightweight, aluminum, gravity wheel type Arr-O-Lite conveyor can be furnished in 5 and 8-foot sections which are 12 inches wide. Eight-foot section weighs 28 pounds and has capacity of 400 pounds of distributed load per section or 50 pounds per foot. Conveyor wheels are corrosion resistant plastic and they are free running and noiseless in operation. Parts of conveyor are die formed for complete interchangeability.

No tools are required to connect adjacent sections, and all straight sections are equipped with self-locking concealed type hook and bar couplers. There are no sharp corners or projections to tear or damage packaged merchandise or injure personnel. Made by **Arrow Products Inc.**, 343 Indiana Ave. N. W., Grand Rapids 4, Mich.

▲ Mention Item NED-3910 when writing ▲

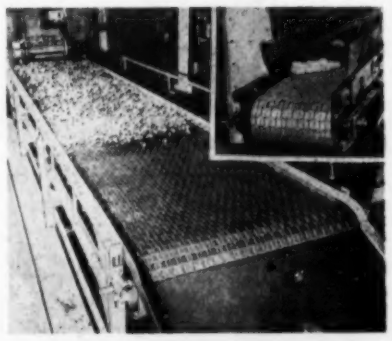
## ADJUSTABLE WORK TABLE



Working heights of from 26½ to 37 inches can be attained instantly with this Work-Flow adjustable work table. It is designed for use in offices as well as for factory production and assembly lines. Table will hold load of 300 pounds. Hand crank located conveniently on right hand side controls working level of the 48 by 30-inch table top. Table is moved easily because it has gliders on bottom. It is constructed of plywood and gears are made of steel. Made by **Haskell Mfg. Co.**, 207 Penn Ave., Pittsburgh 21, Pa.

▲ Mention Item NED-3911 when writing ▲

## STEEL CONVEYOR BELTING



Flexible, flat top, steel conveyor belting is available in choice of either solid top links or links with ¼-inch perforations for drainage and ventilation. No. 302 (18-8) stainless steel links are joined by 12-gage spindle wires which are self-locking on underside to form continuous length. Belting is resistant to surface abrasion, has no stretch characteristics and can be cleaned easily. It can be supplied in any length and in width increments of even inches. Ridges on underside add strength and provide continuous level surface to contact head and tail pulleys and support rollers. Belting can be supplied also in electrogalvanized steel. Made by **Food Machinery Corp., Anderson-Barngrover Div.**, San Jose, Calif.

▲ Mention Item NED-3912 when writing ▲

# with PLASTIC ROCK!

*Trowel, a smooth, tough, malleable surfacing right over your old concrete or wood floor.*

Plastic Rock comes complete, packed in barrels, nothing more to buy, no application "formula" to confuse you. Simply mix and trowel right over old floor; sticks to concrete, wood, steel; average depth ½"; patches concrete to perfect feather edge. Old floor Saturday, new floor Monday; hundreds of tons rolling on steel wheels only improve it; 7-year-old floors show no wear. Plastic Rock is spark-proof, skid-safe even when wet, dustless, silent; feels like cork under foot; cannot splinter, crack, crumble, curl or loosen. Used by largest industries and railroads in America. Your contractor or your own crew can apply. Not for home use.

*Ask for Report 220-D-7*

UNITED LABORATORIES, INC.
16804 EUCLID AVENUE • CLEVELAND 12, OHIO
In Canada — STORRAR MFG. COMPANY, Weston, Ontario
Representatives everywhere, including foreign countries

▲ Mention Item NED-3913 when writing ▲



# 4 WEEKS DELIVERY

MOTORIZED VALVES FOR STEAM • AIR GAS • OIL OR WATER

Yes, prompt delivery in reasonable quantities! 2-position Motorized Valves: Globe ½" to 2½"; Butterfly 1¼" to 4". Induction type motor, develops positive power drive through worm and spur gear reduction. Adjustable limit switches for trouble free service. Sturdy dust-tight and splash-proof housing. Simple installation; also adaptable to damper and draft control. Operates from 3-wire thermostat off either 24, 110 or 220 V., 50 or 60 Cy.

*Write For Bulletin F-10*

atc

FIRST IN MOTORIZED VALVES FOR OVER A QUARTER CENTURY
AUTOMATIC TEMPERATURE CONTROL CO., INC.
PHILADELPHIA 44, PA.

▲ Mention Item NED-3914 when writing ▲



# STANDARD X WASHERS

1 Efficient and economical
2 Quick, positive assembly
3 360 degree closure, which supports greater thrust load
4 Quick, easy removal, which simplifies service or repair

Standard X washers are available for the following pin diameters: 7/32" to 17/32".

Write for Bulletin 26 containing complete specifications.

Standard Locknut & Lockwasher, Inc.
311 N. CAPITOL AVENUE • INDIANAPOLIS 4, INDIANA

▲ Mention Item NED-3915 when writing ▲


## WIRE STITCHING MACHINE

Suited for fastening operations, ticketing and general box work, this straight arm wire stitching machine will operate over an adjustable speed range of from 150 to 350 stitches per minute. Unit is available as floor model furnished in any desired height or in bench model. Control knob allows immediate adjustment of machine speed. Stitching mechanism is tripped by electric solenoid actuated by button floor switch. Automatic brake eliminates power drag between stitches.

All main operating parts in mechanism ride on sealed-in ball bearings, and lubrication points are accessible from outside by means of Zerk fittings. Reversible parts in stitcher head are easily replaceable when worn. Machines are powered by ¼-horsepower motors. Made by **N. A. Young Co.**, 100 Reichert Ct., Racine, Wis.

▲ Mention Item NED-3916 when writing ▲

## FLUORESCENT STARTER

Designed to provide efficient fluorescent lamp performance, P-D-Q Instant starters will fit all standard fluorescent socket holders and are tested and checked in actual service to assure lamp starting in 1 second or less. Starters are fabricated to exacting specifications and carry Underwriters' Laboratories approval. Made by **Solar Electric Corp.**, Ensworth Rd., Warren, Pa.

▲ Mention Item NED-3917 when writing ▲

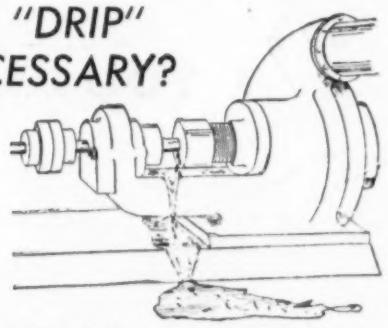
## LOCATING MICROSCOPE

Originally designed for use with Moore jig borer and jig grinder, this locating microscope can be attached by means of suitable shank or adapter to any machine or inspection tool requiring optical pickup device. Unit can be used for hole location and to check contour shapes, finish or surface conditions. Locating accuracy is quickly determined by substituting microscope for cutting tools or grinding heads, retracing table settings and comparing positions of holes with original dimensions while workpiece is still in machine. Thumbscrews provide for optical adjustment and are guarded against accidental displacement.

Magnification is 40 power. In addition to double pair of cross lines spaced 0.001-inch apart, unit has reticle which contains large number of conveniently spaced concentric circles with broken lines. Image is reverted to natural position to facilitate rapid checking, and field of vision is wide enough to include a large portion of workpiece for picking up reference point. Made by **Moore Special Tool Co.**, 740 Union Ave., Bridgeport 7, Conn.

▲ Mention Item NED-3918 when writing ▲


IS THAT "DRIP" NECESSARY?

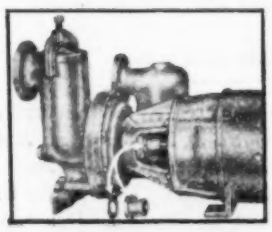


NOT when you use SYNTRON

*"Replacement"*

# SHAFT SEALS

Self-lubricating "Packaged" units (no conglomeration of parts to fuss with)—easy to install, just slide over shaft and secure.



For handling water, air, gases, petroleum products, etc. Withstand temperatures from −10° F. to +200° F., and pressures to 250 psi.

*Write for folder.*

SYNTRON CO.
405 Lexington, Homer City, Pa.

▲ Mention Item NED-3919 when writing ▲



# 4.4 H.P. ENGINES
## *Available Now*

**Timken roller bearings on crankshaft and camshaft. Force feed pressure lubrication. Send for catalog with illustrations, specifications and performance data.**

• Standard power take-off is from camshaft at 2:1 reduction; also available from crankshaft at 1:1 reduction. 4.4 H.P. at 1600 camshaft r.p.m. and at 3200 crankshaft r.p.m. Air-cooled. Weighs 97 lbs. Measures 18" long x 17" wide x 21¼" high. Single cylinder mounted at 45 degree angle for ease of exhaust, better balance, compactness. Write for illustrated folder with power and torque curves and complete specifications.

Ellinwood INDUSTRIES

SERVING THE WEST—National Machine Products Plant, Los Angeles 3, California. SERVING THE EAST—Ellinwood Industries, Incorporated, Huntington, West Virginia. INTERNATIONAL DIVISION—649 South Olive Street, Los Angeles 14, California.

▲ Mention Item NED-3920 when writing ▲



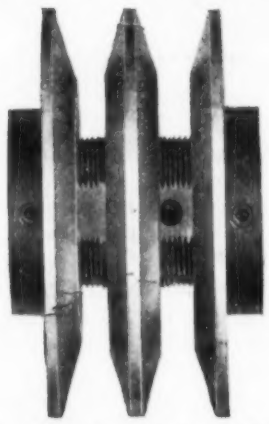
# VARIABLE SPEED

**BROWNING OFFERS**

**Low Price "V" Drives**

*for*

**AIR CONDITIONING, HEATING, VENTILATING, and SIMILAR WORK**



Available in a Wide Range of 1 and 2 Groove Sizes

*Write for new Catalog giving application in drives*

**BROWNING MFG. COMPANY, Inc.**
1947 BROWNING DRIVE MAYSVILLE, KY.

▲ Mention Item NED-3921 when writing ▲



# DIEBEL

550 Hi-Speed R.P.M. AUTOMATIC PRESS

STEPS UP PRODUCTION
CUTS COSTS
on all Small Stampings

METAL
PLASTIC
FIBRE
PAPER
RUBBER
LEATHER

The Diebel Hi-Speed Punch Press requires less floor space—less power—increases production—is safer—releases heavier presses for other production.

**Remember**—this versatile Hi-Speed Automatic Press is adjustable up to 550 strokes per minute!

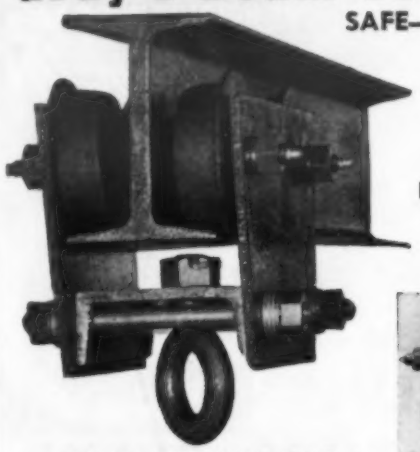
*WRITE TODAY FOR ILLUSTRATED LITERATURE*

DI MACHINE CORP.
DIVISION OF DIEBEL DIE & MFG. CO.
2701 West Irving Park Road Chicago 18, Illinois

▲ Mention Item NED-3922 when writing ▲

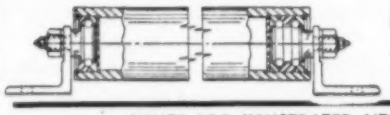
# Gray I-Beam Trolleys

SAFE—EFFICIENT



Close Headroom
¼ to 5 ton Capacity
Adjustable For Any Type Beam
IMMEDIATE DELIVERY

TROLLEY WHEELS→
Plain or Flange Type
Single or Double Ball Race
Thoroughly Sealed



←GRAVITY ROLLERS
From 2¼" dia. up
Specify Length

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GRAY HUB COMPANY
INCORPORATED 1922
17565 GABLE AVENUE DETROIT 12, MICH.

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You can do any of these jobs
FASTER-EASIER-BETTER
with Strand Flexible Shaft Machines

Grinding · buffing · polishing · sanding · drilling
reaming · rotary filing
wire brushing · screw driving · nut setting · wood filler rubbing · rasping

Strand machines provide PORTABLE rotary power at CONSTANT speeds with dependable results and less operator fatigue. Ruggedly built for years of steady use. Hundreds of attachments easily interchanged—125 types and sizes—vertical and horizontal models from ⅛ to 3 H.P.

DISTRIBUTORS IN ALL PRINCIPAL CITIES

Send for CATALOG showing complete line.

M-5

Strand FLEXIBLE SHAFTS
N. A. STRAND & CO.
5021 NO. WOLCOTT AVE.
CHICAGO 40, ILL.

▲ Mention Item NED-3924 when writing ▲



Panel Instruments

A-C or D-C audio and radio frequencies
(2½"... 3½"... 4½")

Immediate Delivery

Here's wonderful news! Active ratings of Westinghouse panelboard instruments . . . now available for immediate delivery.

- **Sizes** . . . 2-1/2", 3-1/2" and 4-1/2"
- **Styles** . . . rectangular and round cases for flush or surface type mountings
- **Ratings** . . . d-c, power frequency, audio frequency and radio frequency

Call your nearest Westinghouse office or write for Switchboard Instruments 3363-1 or Communications Instrument Booklet 3283-1, Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.

J-40360

Westinghouse
PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE

Built for Unfailing Performance

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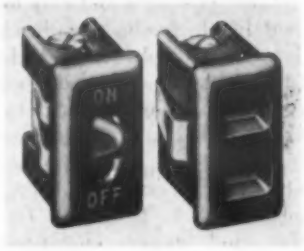
## ELECTRIC SWITCH & OUTLET

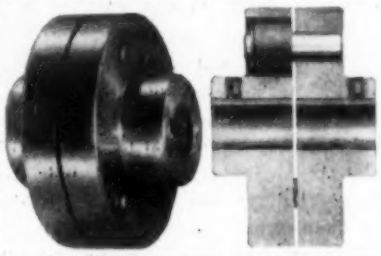



Designed primarily for use on appliances and electrical equipment, Diamond-H convenience outlets and Diamond-H single pole, single throw switches are both spring mounted for ease of installation and replacement. Requiring no screws, units can be snapped instantly in or out of position. They are available in black, white or brown plastic. Mounting space required for each is ⅝ x 1-3/16 x 1 inch. Switch is equipped with silver contacts and operating pressure is from 3 to 5 ounces. Switch capacity is 115-volt 15-ampere or 230-volt 10-ampere alternating current only. Outlet is rated at 125 volts 15 amperes or 250 volts 10 amperes. Made by **Hart Mfg. Co.**, Dept. N, Hartford, Conn.

▲ Mention Item NED-3926 when writing ▲

## LIGHT DUTY COUPLING

Light duty, low cost model No. 403 flexible coupling is recommended for use on small fans, centrifugal pumps, speed reducers and other direct-connected installations where operating conditions are good, loads light and torques even. Coupling is especially suited for mounting on standard N. E. M. A. motors with shafts not larger than 1¼ inches in diameter. It requires no lubrication and provides free end float which permits electrical machinery to find magnetic center. Protection against unavoidable misalignment is secured through use of rubber bushed oilless bronze bearings which mate with three drive studs. Units are quiet-running and can be installed either horizontally or vertically. Flanges are made of cast semisteel and machined. Made by **Ajax Flexible Coupling Co.**, Westfield, N. Y.



▲ Mention Item NED-3927 when writing ▲

## SOLDERING TORCH

Temperatures as high as 2000 F can be attained with this Super Jet blow torch for soldering, light brazing, annealing or hardening of small work. Unit employs completely dry burning chemical in tablet form. Gentle blowing through clear, sanitary, flexible plastic tube directs flame to work. Super Fuel tablets are convenient, clean and leave no residue on workpiece. They burn for approximately 10 minutes.

Torch weighs only a few ounces, is portable and is equipped with brass cup to hold fuel tablet. Handle is air cooled. Torch packaged with three fuel tablets is priced at $1. Additional fuel in boxes of twelve tablets is priced at 25 cents. Made by **Birk Mfg. Co.**, 552 Hills St., East Hartford 8, Conn.

▲ Mention Item NED-3928 when writing ▲


GEOPHONE locates leaks without digging

"Registered In U. S. Patent Office"

When the discs are placed on the ground (as pictured) the Geophone detects by sound the exact location of leaks in water or steam pipes. Acclaimed for its accuracy, the Geophone has become indispensable in thousands of Public Works Departments and Industrial Plants throughout the United States.

√ MONEY-SAVING

You save the costly expense of extensive surveys, excavating and replacing. The inexpensive Geophone pays for itself many times over in money saved.

√ ACCURATE

Operating on the principle of the seismograph, the Geophone is without question the most sensitive and reliable instrument for detecting underground leaks.

Complete Geophone outfit consists of connecting tubes, two Geophone discs, headpiece, and heavy leather-covered carrying case with shoulder straps. $75

Pipe Finders . . . . . $100
Dipping Needles . . $18.50
Pipe Phones . . . . . $3.70

Globe Phone Mfg. Corp. Reading, Mass. U. S. A. Dept. N
Manufacturers of Geophones Since 1918

▲ Mention Item NED-3929 when writing ▲



INSTANT HEAT...
IDEAL "THERMO-GRIP" SOLDERING SET

New IMPROVED MODEL

Operating on the resistance heating principle, this new unit heats faster, concentrates heat, conserves power. It is modern in design, light weight, compact, and portable—can be used for long periods without overheating. Grips work while heating. Handy thumb switch permits close heat control. All parts fully insulated. Low voltage. No fire hazard. Write for full details.

ATTACHMENTS for All Types of Soldering Jobs
"PLIER" for work that can be held in jaws.
"PENCIL" for spot or seam soldering.
"FORK" for soldering in restricted spaces.

IDEAL INDUSTRIES, Inc.
Successor to Ideal Commutator Dresser Co.
1032 Park Avenue, Sycamore, Illinois

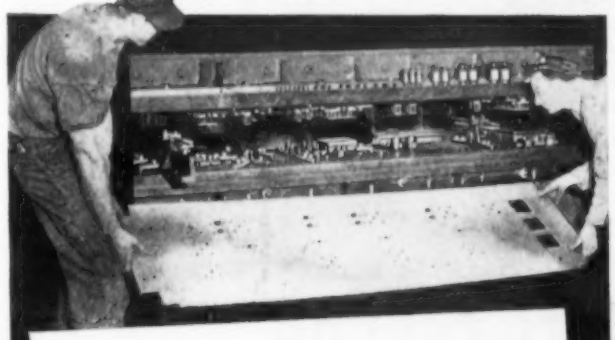
IDEAL

DISTRIBUTED THROUGH AMERICA'S LEADING WHOLESALERS

▲ Mention Item NED-3930 when writing ▲



Meet sudden change-orders without tying up Press Production



WHISTLER
ADJUSTABLE PERFORATING DIES
quickly and easily rearranged

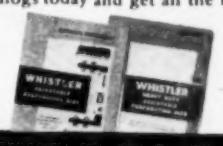
Change-orders from the engineering department usually cause plenty of headaches in production . . . particularly where die piercing operations are involved.

But . . . if you're using Whistler Adjustable Dies, there is no lost time—no waiting—no extra die expense. The same dies are easy to rearrange to the new design. Add units from stock, or delete sizes and shapes no longer required. Arrange the new set-up right on the press.

Consider the savings in production time alone. Then think how continued re-use of the same dies in subsequent jobs writes off first cost.

Whistler Dies can be used in practically any press. All parts are interchangeable. Precision is assured on long or short runs. Closer centers permit fewer press operations.

Deliveries are quick . . . little or no waiting. Standard round punches and dies up to 3" are available from stock. Ovals, squares, rectangles and special shapes can be made up in a few days. Write for the Whistler Catalogs today and get all the facts.




S. B. WHISTLER & SONS, INC.
750 MILITARY ROAD
BUFFALO 17, NEW YORK

▲ Mention Item NED-3931 when writing ▲

Dependable steel products and unequalled steel service facilities . . . available for your steel-buying convenience at twelve conveniently located Ryerson plants. Because of great demand, all sizes are not always in stock; but we usually can suggest a reasonable alternate.

PRINCIPAL PRODUCTS

Bars • Structurals • Plates • Sheets • Tubing • Allegheny Stainless • Alloy Steel • Inland Safety Floor Plate • Bolts • Rivets • Metal Working Tools & Machinery, etc.

JOSEPH T. RYERSON & SON, INC.

PLANTS: New York, Boston, Philadelphia, Detroit, Cincinnati, Cleveland, Pittsburgh, Buffalo, Chicago, Milwaukee, St. Louis, Los Angeles

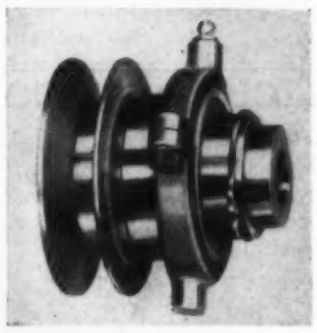
▲ Mention Item NED-3932 when writing ▲


## HYDRAULIC PIPE BENDER

Light in weight and easy to use, portable hydraulic pipe bender is furnished complete with hydraulic jack which has screw extensions to permit maximum bends to be made. Dies and ram extensions for 180-degree bends can be furnished. Sizes available are 24-inch model with ¾, 1, 1¼ and 1½-inch dies; and 30-inch unit which is furnished with 1½, 2, 2½ and 3-inch dies. All parts are electric welded and heavily reinforced. Made by **Electric Cord Co.**, 30 Church St., New York 7, N. Y.

▲ Mention Item NED-3935 when writing ▲

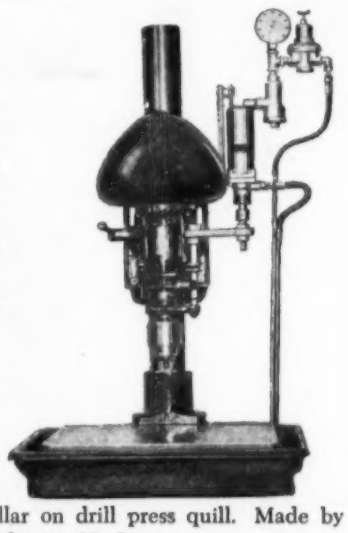
## V–BELT FRICTION CLUTCH



Gripping or releasing directly on V-belt, this Ball-Lok friction clutch is suitable for use in connection with internal combustion engines, motors, tractors or any type of machine requiring smooth clutching action. Unit can be used either as driving or driven pulley and is available in four sizes having from 3¼ to 5-inch sheave diameter. Clutch action is provided by grip of sidewalls of pulley against belt. When clutch is opened, belt slackens and idles on free running ball bearing with no attendant belt drag or creep. Engaging action which grips belt and forces it away from idler bearing and into working position is smooth and shockless in load pickup. Made by **V-Belt Clutch Co.**, 3757 Wilshire Blvd., Los Angeles 5, Calif.

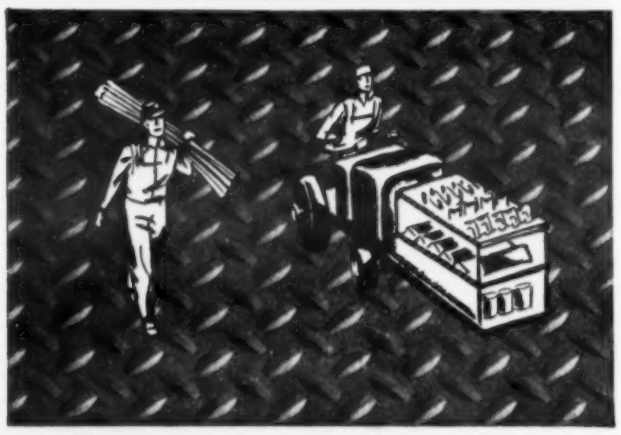
▲ Mention Item NED-3936 when writing ▲

## DRILL PRESS FEEDER



Drill presses are converted for production drilling operations by this No. DC-40730 drill press kit. Unit provides controlled air power which can be adjusted to suit any drill size or stock and assures maximum drilling speed within safe limits. Kit consists of air motor, pressure gage, pressure regulator, exhaust valve, cushioning plug, foot operated control valve, air strainer, cutout cock and flexible hose lines. Foot control leaves operator's hands free to load and unload fixtures. Kits are designed for easy installation by any shop mechanic. Air motor is mounted on bracket which is attached to drill press frame, and piston can be connected to adjustable stop of drill press or to collar on drill press quill. Made by **National Pneumatic Co.**, Rahway, N. J.

▲ Mention Item NED-3937 when writing ▲

Sure Footing for Men and Machines

Here is super-tough steel flooring designed to provide positive traction. Even when wet, the angular projections resist slipping and skidding. Cleans easily, drains freely, and is convenient to cut, form, or weld. Stocked by leading warehouses.

WRITE FOR BOOKLET

INLAND STEEL COMPANY

38 S. Dearborn St., Chicago 3, Ill. • Offices: Detroit, Indianapolis, Kansas City, Milwaukee, New York, St. Louis, St. Paul

INLAND 4-WAY FLOOR PLATE

▲ Mention Item NED-3933 when writing ▲

GET THIS HELPFUL BOOKLET

"100 WAYS TO APPLY Electric HEAT"

see how you can
• INCREASE PRODUCTION
• SAVE TIME & MONEY
• IMPROVE QUALITY

CHROMALOX Electric HEATING UNITS

SEND FOR YOUR FREE COPY

It shows you how CHROMALOX Electric Heaters are efficiently and economically solving many of industry's toughest heating problems.

Write Today to:
EDWIN L. WIEGAND CO., 7589 THOMAS BOULEVARD, PITTSBURGH 8, PA.

See other advertisement on page 55

CHROMALOX IB-58

ELECTRIC HEATING AT ITS BEST!

▲ Mention Item NED-3934 when writing ▲

IS BEST HANDLED

*Gas ranges assembled on-the-move, on Logan Belt Conveyor*

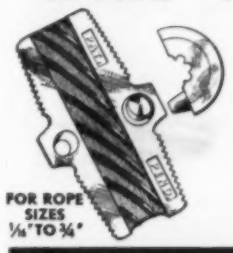
Every "manual" movement costs money . . . in an industrial plant. You can reduce this cost toll if you will, by mechanizing every possible handling operation with Logan Conveyors. Under competitive conditions, a well-engineered conveyor system often can make the difference between profit and loss. Write for literature today.

Logan Conveyors

LOGAN CO., INC., 215 CABEL STREET • LOUISVILLE 6, KENTUCKY

▲ Mention Item NED-3938 when writing ▲

SAFE-LINE WIRE ROPE CLAMP



FOR ROPE SIZES 1/8" TO ¾"

• Eliminates Splicing and Serving
• Easy to Use, Easy to Re-adjust
• Outpulls Strongest Rope—Never Slips
• Economical—Use Again and Again
• Safe—Prevents Injury, Mental Hazards
• Replacement Guarantee Against Breakage

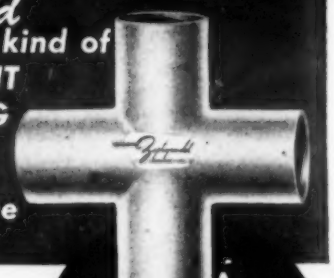
WRITE FOR DESCRIPTIVE PRICE LIST FOLDER

NATIONAL PRODUCTION COMPANY

4557 ST. JEAN AVENUE • DETROIT 13, MICHIGAN

▲ Mention Item NED-3939 when writing ▲

Zephyrweld a new kind of LIGHTWEIGHT WELDING FITTING from 1" thru 18" O. D. for stainless steel, light gauge O. D. tubing



✓ LOW COST
✓ POCKETLESS
✓ CORROSION RESISTANT
✓ NO MITERED JOINTS
✓ READILY ADAPTABLE TO OTHER FITTING TYPES

A complete line, including . . . ELLS—TEES—CROSSES Y's—LATERALS REDUCERS ADAPTERS

See your Tri-Clover Jobber or write for details

Tri-Clover MACHINE CO. Kenosha, Wisconsin

TRIALLOY AND STAINLESS STEEL SANITARY FITTINGS, VALVES, PUMPS, TUBING, SPECIALTIES — TRI-CLOVER — FABRICATED STAINLESS STEEL INDUSTRIAL FITTINGS AND INDUSTRIAL PUMPS

THE Complete LINE

▲ Mention Item NED-3940 when writing ▲

CUT THE COST OF TUNGSTEN CARBIDE-TIPPED WORK REST BLADES

NEW S-E-G-M-E-N-T TYPE*

NEW SCULLY-JONES Segment-Type* WORK REST BLADES save money because (1) a damaged blade is no longer a lost blade, (2) only individual damaged segment needs to be replaced.

Cost of Scully-Jones reconditioning service on this Segment-Type* Blade is but a fraction of the cost of a new blade.

Refer to the Scully-Jones Catalog showing over 500 types and sizes of cutting tools, collet chucks, boring equipment, centers, etc.

Write for prices and delivery on this long-wearing, improved type of Work Rest Blade for Centerless Grinders.

2056 PE

*Copyright, 1946, Scully-Jones & Company

Scully-Jones AND COMPANY

SCULLY-JONES SEGMENT-TYPE* T.C.T. WORK REST BLADES 1953 S. Rockwell St., Chicago 8, U.S.A.

▲ Mention Item NED-3941 when writing ▲

NOW YOU CAN CUT
ACCURATE CIRCLES STRAIGHT LINES SHAPES

WITH THE
FLASH CIRCLE BURNER

A FLASH MODEL FOR MOST TORCHES

| make | Tip No. |
|---|---|
| VICTOR | CD-0 |
| VICTOR | 1 |
| VICTOR | 2 |
| NATIONAL | AA-4 |
| OXWELD | 1 |
| OXWELD | 6 |
| AIRCO | 00 |
| AIRCO | 1 |
| SMITHS | 1-4 |
| HARRIS Monarch | 28 |
| HARRIS Speed King | |
| REGO KX. REGO Small | |
| PRESTOWELD PUROX | |

Models Listed, $6.50
When ordering FLASH Circle Burner, specify make and size cutting torch it is desired for.

Here, at last, is a precision tool that eliminates guesswork; handling hoses and haphazard methods of cutting circles, curves, straight lines with a flame cutting torch. Streamlined for quick and simple height and radius adjustment, the FLASH is proficient in any position, whether vertical or horizontal. Many industrial plants have proved the FLASH a real time saver and that it greatly increasse the utility of any cutting torch.

SCIENTIFIC RESEARCH
DEPT. 11 · 1618 N. VANCOUVER AVENUE
PORTLAND 12, OREGON

▲ Mention Item NED-3942 when writing ▲

TILT-TRAY TRUCK

*Easy, Economical Handling of*
★ SMALL PARTS
★ ASSEMBLIES
★ SHEETS, RODS & TUBING
★ MOLDINGS
★ RUBBER & PLASTIC
*for*
Curing, Drying, Baking
Transportation, Storage

Each tray is hinged at rear. Extension springs hold it in raised position when not in use. Spacers facilitate lowering one tray at a time. After one tray is filled with parts, another tray is lowered to receive more parts. When unloading, reverse of this procedure is used.

Trays can be supplied in practically any size, number or construction, with galvanized metal cover, metal screen cover or partitioned as required. Plain or rubber tired wheels and casters, semi-lift models for use with lift jacks, or dead skid types for use with fork or lift trucks are available.

Send us your handling problem and we will design without cost to you a Tilt Tray Truck to fit your needs.

★ ENGINEERING
★ DESIGNING
★ FABRICATING

WELDED CONSTRUCTION ENGINEERING CO.
2037 W. Fourteenth St.
CLEVELAND 13, OHIO

▲ Mention Item NED-3943 when writing ▲

*Precision*
• GROOVING
• RECESSING
• BACKFACING
PRODUCTION OR SHORT RUNS

These highly efficient and accurate recessing tools will fit your drill presses, boring mills, turret lathes, automatics or milling machines. They are rugged, dependable and will pay for themselves in time and material saved. Accuracy to within .001 inch.

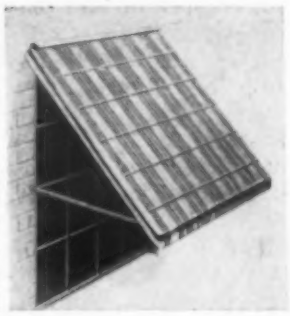
A complete range of sizes available for ⅜" to over 4" diameters, furnished in either tapered or straight shanks.
*Write for bulletin R-246*

TAPERED or STRAIGHT SHANKS
fit any drill press, boring mill, turret lathe, automatic, milling machine.

THE MAXWELL COMPANY
Max-well-made tools
390 Broadway Bedford, Ohio

▲ Mention Item NED-3944 when writing ▲

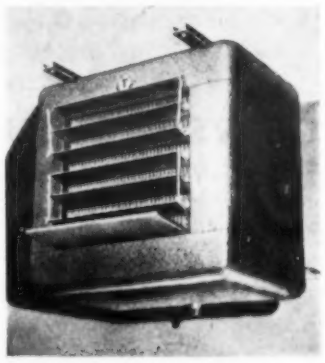
## STAINLESS STEEL AWNINGS



Available in standard sizes in increments of 6 inches, Perma-Steel awnings are fabricated of stainless steel permanently spot welded and trimmed in a choice of ten colors. Construction is of lightweight tubular strut type which affords ample rigidity to withstand wind drag or heavy loading of ice and snow. Awnings can remain on buildings the year around or can be removed quickly and folded for storage. They are fireproof and give ample rain and sun protection with ventilation. They do not trap static heat against windows. Awnings will not leak because each strut serves as rainspout and hanger strip is permanently anchored and caulked to building. Made by **Perma-Steel Corp.**, 2025 Fenkell Ave., Detroit, Mich.

▲ Mention Item NED-3945 when writing ▲

## INSULATED UNIT COOLER



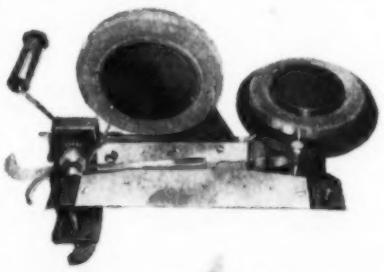
Easily installed in any convenient location, this insulated unit cooler can be adapted to comfort cooling in offices, storage places and work rooms or for industrial and commercial refrigeration applications. Several coolers can be operated from remotely located common condensing unit to cool considerable area without need for exposed ducts. Proper insulation prevents condensation from forming on outside of casing.

Sizes are available for cooling spaces up to 15,000 cubic feet and where larger areas are to be accommodated, multiple coolers can be located strategically. Each unit is finished in maroon crackle outside coating. Made by **Tenney Engineering, Inc.**, Dept. TS, 26 Avenue B, Newark 5, N. J.

▲ Mention Item NED-3946 when writing ▲

## EDGE BINDING DEVICE

Edges of tracings, documents, shop prints, charts, cards, loose-leaf sheets, photos, etc. can be edged and reinforced by means of this sturdy Edger binding device. Sheets to be reinforced are inserted under tape applying roller and simple turning of hand crank applies permanent edge binding of paper tape or transparent or colored cellulose tape. Material as heavy as ¼-inch can be bound. Unit can be used to combine two sheets such as cellophane and paper. When equipped with flat stripping attachment, machine will reinforce flat-strip sheets applying full width of tape to top surface. Made by **Vertex Co.**, 40-44 W. Fourth St., New York 12, N. Y.



▲ Mention Item NED-3947 when writing ▲

JUST A FEW ITEMS FROM OUR NEW CATALOG

*Send for 60-page Catalog No. 26*
MARTINDALE ELECTRIC CO.
1387 HIRD AVE., CLEVELAND 7, OHIO

▲ Mention Item NED-3948 when writing ▲

CRANE WHEELS AND WHEEL ASSEMBLIES

INSTALL THESE WHEEL ASSEMBLIES complete with axles, bearings, drive gears, grease fittings and all necessary parts for a complete installation. There are sizes, types, and styles of mounting to suit every requirement.
DOUBLE FLANGED WHEELS range in standard tread diameters from 7½" to 24"; SINGLE FLANGED WHEELS from 4" to 8". Wheels are available unmounted or in completely assembled units.

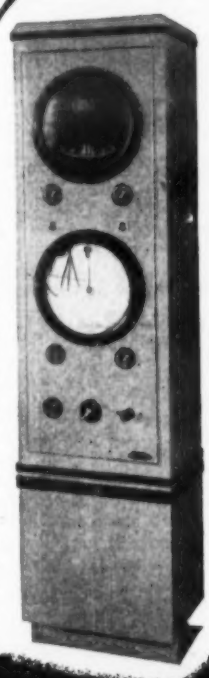
WRITE FOR CATALOG — Complete line of Downs Crane Wheels and Assemblies are illustrated and described in new Catalog No. 3540. Specifications included. Write today!

DOWNS CRANE & HOIST CO.
MECHANICAL ENGINEERS
540 W. VERNON AVENUE
LOS ANGELES 37, CALIF.

Electric Cranes ● Hand Cranes ● Jib Cranes ● Sheaves ● Sheave Blocks
Plate Grips ● Plate Hooks ● Crane Trolley Hoists ● Crane Wheels ● Crane End Truck Units ● Jib Crane Fittings ● Automatic Mechanical Load Brake Crane Hook Blocks

▲ Mention Item NED-3949 when writing ▲

*Complete Pre-Engineered*
AUTOMATIC CONTROL UNITS



The entire automatic control system for any process step now is available in compact integrated form in Foxboro Automatic Control Cabinets. Any required combination of Foxboro Instruments is expertly assembled and coordinated at the factory. Installation of a complete control system requires only simple external connections for compressed air and power. Typical example is food packing control cabinet pictured. Others employ one or more instruments, as required.

Write for details on your requirements. **The Foxboro Company, 134 Neponset Ave., Foxboro, Mass., U. S. A.** Branches in principal cities.

FOXBORO INSTRUMENTS
REG. U. S. PAT. OFF.

▲ Mention Item NED-3950 when writing ▲

Poro-Stone Filtration
FOR COMPRESSED AIR

EFFICIENTLY REMOVES
OIL, WATER
PIPE SCALE

The Adams *Poro-Stone* Filter gives continuous service without attention or maintenance expense. Efficient centrifugal separation *plus* diffusion through Poro-Stone, removes contamination completely without pressure loss. Automatic Trap eliminates attention and assures continuous and efficient filter operation. Write for complete data—Bulletin 105.

R. P. ADAMS CO., INC.
227 E. Park Drive•Buffalo 17, N. Y.

ADAMS *Poro-Stone* AIR FILTER

▲ Mention Item NED-3951 when writing ▲

**Titeflex** All-Metal Flexible Tubing has proved its dependability by 30 years of service tests in industry's toughest jobs. Used for conveying all types of liquids and gases, it has defied heat, cold, corrosion, abrasion, constant vibration, and other abuse.

On your next job, specify the tubing of proved merit: TITEFLEX All-Metal pressure tight flexible tubing. Catalog No. 113 available on request.

**Titeflex, Inc.** 548 Frelinghuysen Ave., Newark 5, N. J.

Exclusive Manufacturers of Titeflex high quality products for more than 30 years

Sales Offices: CHICAGO CLEVELAND DETROIT PHILADELPHIA LOS ANGELES BOSTON SAN FRANCISCO TORONTO

▲ Mention Item NED-3952 when writing ▲

Don't ruin a valuable piece of equipment merely because some part is rusted tight. Apply Kroil, the amazing new chemical lubricant that creeps into millionth inch spaces (proved by laboratory tests), dissolves rust, supplies necessary lubrication and

**LOOSENS FROZEN PARTS**

5000 of America's leading plants can't be wrong! They used KROIL during the war and are still depending on it to save expensive labor and valuable parts. They say: "Kroil loosened bushings after a 12 ton press had failed" . . . "manifold studs on Buick were badly corroded. Applied Kroil. Next day turned nuts off by hand" . . . "on repairing heat treat trolleys formerly destroyed every nut. Now Kroil saves them all, and time, too." . . .

You, too, should be using KROIL every day. Try it on money back basis. Gallon $3. 5 Gals., $13.50 FOB Chicago

**KANO LABORATORIES**
74 E. WACKER DR., CHICAGO 1, ILL.

▲ Mention Item NED-3953 when writing ▲

*Double Value . . . in*

**2-in-1 PRODUCTIMETERS**

New design of double deck Model "N" units offer smooth action and high speeds . . . both rows count simultaneously . . . top row registering job lot or current run, while bottom row gives daily, weekly or monthly totals. Available in Stroke style as illustrated, rear or end drive Rotary . . . and Predetermined Stroke and Rotary models.

***Wide range of applications . . .***
***Send for descriptive literature!***

**DURANT MANUFACTURING COMPANY**
1922 N. Buffum Street, Milwaukee 1, Wisconsin
122 Orange Street, Providence 3, R. I.

▲ Mention Item NED-3954 when writing ▲

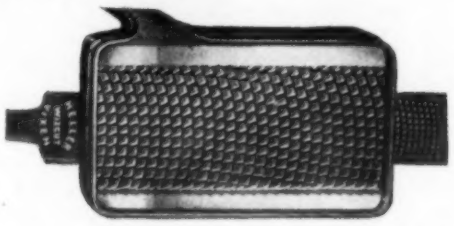

## ELECTRIC HOIST

Complete one-hand control is feature of Cablemaster and Speedmaster lines of electric hoists. Cablemaster hoists are available in 250, 500 and 1000-pound capacity models and Speedmaster hoists, illustrated, can be furnished in 750, 1000, 2000, 3000, 4000 and 6000-pound capacity models. Wristwist control consists of aluminum handle fastened at the ends of two pendant ropes. Operated with one hand, handle affords full control of hoist, and operator has free hand to guide load if necessary. Speedmaster hoists are equipped with Master Gearmotor and electric brake. Speeds of from 15 to 50 feet per minute can be attained. Hoists are furnished in hook or trolley mounting. Made by **Master Electric Co.**, 100 Davis Ave., Dayton, O.

▲ Mention Item **NED-3955** when writing ▲

## CURVED TOOTH FILE

Line of Vixen Wizcut curved tooth files has self-cleaning and nonclogging features which result in fast cutting and smooth finishing operations. Serpentine-like chip breaking

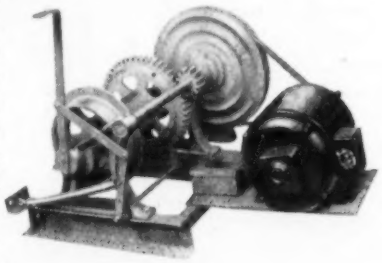


grooves are superimposed on curve contour of milled teeth. Teeth are designed to clear file of chips readily even when working with soft metals. Files can be used on such materials as fiber and soft sticky metals. Made by **Heller Brothers Co.**, 865 Mt. Prospect Ave., Newark, N. J.

▲ Mention Item **NED-3956** when writing ▲

## WINCH TYPE POWER HOIST

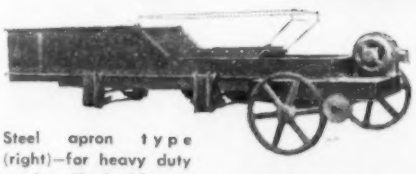
Featuring eccentric drive which provides for remote control operation, this winch type power hoist is available in 2 and 3-horsepower sizes and is recommended for use in warehouses, factories and in building construction. Positive brake action will hold load at any point safely. Hoists can be gear or belt driven and have capacities up to 1800 pounds. Lifting speed is variable up to 143 feet per minute. Made by **H. D. Campbell Co.**, Rochelle 18, Ill.



▲ Mention Item **NED-3957** when writing ▲


**FEEDERS**

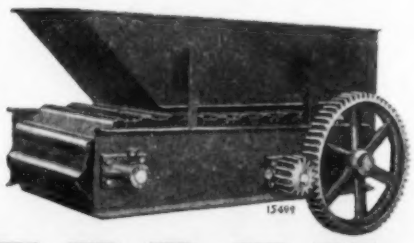
Electric vibrating type—furnished in special sizes and designs of decks to handle feeding problems which cannot be met with standard feeders. (Patented)



Reciprocating plate type—adapted to general service in handling material not too abrasive — length of stroke can be varied. Also Belt type and spiral feeders.

Steel apron type (right)—for heavy duty service. Used either in horizontal self-contained units or as a combination feeder and conveyor for inclined or horizontal operation.

*All built in sizes to suit capacity requirements.*



**JEFFREY**
ESTABLISHED 1877
952-99 N. Fourth St., Columbus 16, Ohio

▲ Mention Item NED-3958 when writing ▲



**FLAMENOL* PORTABLE CORDS**

**HEAVY DUTY — (600-VOLT SERVICE)**
**USES:** Power cords for sanders, drills, grinders, wrenches, and other portable tools.

**DESCRIPTION:** Lightweight, flexible, mechanically strong. Resistant to acids, oils, alkalies, sunlight, aging, abrasion. Available with 2, 3, and 4 conductors, sizes 18 to 8.

**MEDIUM DUTY — (300-VOLT SERVICE)**
**USES:** Power cords for household appliances, business machines, floor polishers, light portable tools, and other medium-duty equipment.

**DESCRIPTION:** Similar to heavy-duty, but with lighter-weight thermoplastic jacket. Available with 2 or 3 conductors, sizes 18 and 16.

For information, write to Section W66-761, Appliance and Merchandise Department, General Electric Company, Bridgeport 2, Connecticut.

**Trade-mark Reg. U. S. Pat. Off.*

**GENERAL ELECTRIC**

▲ Mention Item NED-3959 when writing ▲

**IF YOU** have the problem of economically and efficiently CLEANING AND DRYING small tools or miscellaneous ball bearings or other metal parts or products . . . washing chromic acid off heavy chrome-plated parts . . . removing cyanide from hardened gears . . . removing chips from Diesel engine blocks, you will find many distinct innovations over previous methods in this new folder, "How 7 Famous Companies Solved Their Product Cleaning Problems."

**WRITE FOR YOUR FREE COPY TODAY!**

Or, without obligation describe *your* particular parts or products cleaning problem and we will help you solve it.

**THE ALVEY-FERGUSON CO.**
Established 1901
36 Disney Street, Cincinnati 9, Ohio
*Offices in Principal Cities Coast-to-Coast*

CONVEYING EQUIPMENT
**Alvey-Ferguson**
METAL PRODUCTS CLEANING EQUIPMENT

▲ Mention Item NED-3960 when writing ▲



*These fingers-*
**STAY ON THE JOB**
**with MOXSAN FINGER PROTECTORS**

Moxsan protects not only the front of fingers but *both sides* with durable leather that's seamless on all wearing surfaces. Elastic web back provides cool, comfortable fit. Tapered cut gives freedom of movement. Essential for handling rough or sharp articles, for buffing, grinding, sanding, polishing, punch press work and hundreds of other jobs. Saves time, prevents injury, speeds production. Fits all fingers. Available in 3 types of leather for men and women: heavy duty (7394), medium duty (8384), fine work (9346). Send 10c for sample or $6.15 for a box of 72 . . . today!

**FREE** *Special circular illustrating full line of finger protectors and Illustrated catalog of safety work gloves and safety apparel*

**OLYMPIC GLOVE COMPANY INC.**
95 MADISON AVE., DEPT. 10 NEW YORK 16, N. Y.

▲ Mention Item NED-3961 when writing ▲

## FIRE INSURANCE RATES DROP
*when you switch to*
## SAFETY DEGREASING!

Now you can replace kerosene, gasoline, naphtha and similar risky liquids with **non-inflammable, non-fuming Penetone Senior.**

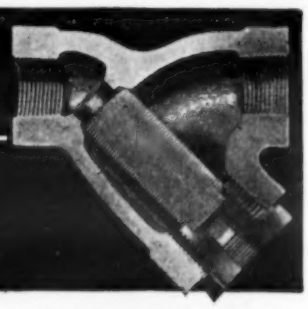
A modern chemical development, Penetone Senior draws out the oil from factory floors, loosens hardened grease from machinery, and cleans small parts and tools in tank degreasing.

It's safe on all metals—including aluminum—and will not hurt the skin. Send for Field Service Report 115—on the industrial applications of Penetone Senior—or write us your special problem.

**THE PENETONE COMPANY**
**TENAFLY, N. J.** **BOX JL3**

▲ Mention Item NED-3962 when writing ▲






**Here is a BETTER Strainer to "police your pipelines"**

- **FIRST—*The Screen*, a high-grade, woven Monel wire basket that catches solids—lets condensate, oil or other fluids flow freely.**
- **SECOND—*Finish*. Cadmium plated for protection against corrosion and for better appearance.**
- **THIRD—*Easily Cleaned*. Blow-off bushing made for easy removal. Bushing and Screen come out together. Screen automatically aligns on reassembly.**
- **THOUSANDS IN SERVICE—Sold by over 150 Mill Supply Houses. 6 sizes from ½" to 2" for pressures up to 600 lb. Reasonably priced.**

*See your supply house or write for Bulletin S-201.*

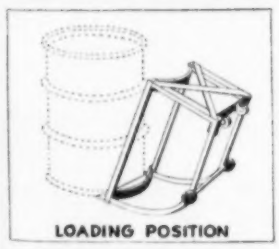
**YARNALL-WARING COMPANY**
131 Mermaid Ave., PHILADELPHIA 18, PA.

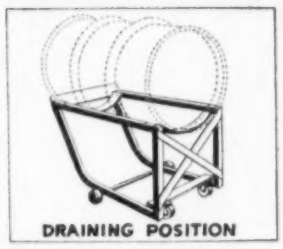
**YARWAY STRAINERS**

▲ Mention Item NED-3963 when writing ▲



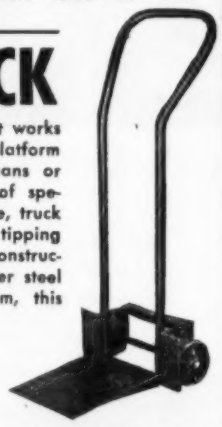
## NEW BARREL DRAIN RACK


LOADING POSITION


DRAINING POSITION

With this rack, one man can easily tap and up-end your barrels, or wheel them around. Perfectly balanced. Safe, convenient. 18" from floor to spigot. With Casters—10.50 net. Without Casters—7.75 net.

## SHOVEL TRUCK



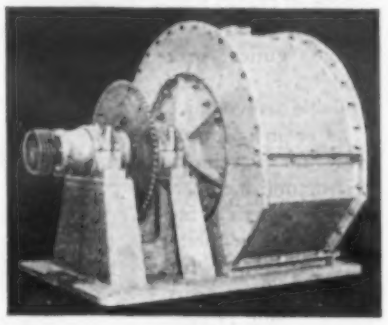
Reduce handling costs with this truck that works like a shovel—a kick of the foot slides platform under the load easily. Boxes, bags, pans or barrels cannot rub on wheels because of specially designed guards. When not in use, truck occupies small space. No danger of tipping over if accidentally bumped. All-steel construction, Hyatt bearings, equipped with either steel or rubber wheels, large sturdy platform, this shovel truck is built to last a lifetime.

A SPECIAL DESIGN with shorter nose and handle is available for handling kegs in screw machine plants.

**FISHER EQUIPMENT COMPANY**
20140 LIVERNOIS ST. DETROIT 21, MICH.

▲ Mention Item NED-3964 when writing ▲


## IMPACT SCREENING CRUSHER



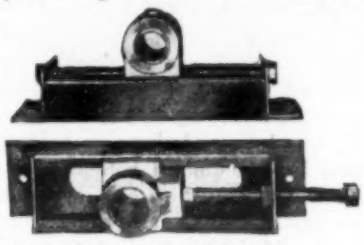
Developed especially for reducing phenolic plastics and other chemical solids to approximately cubical shape, this Bradmill type crusher screens all material before delivery. Unit produces minimum of extreme fines and flats and passes no oversize material. Interchangeable screens and variable speed control permit operation to meet specific conditions. Capacities range from 300 to 2500 pounds per hour depending on material and desired reduction.

Two main elements of crusher are rotating screen and centrally located rotor carrying impact paddles. Main shaft carries screen which is rotated slowly. Unit is available in corrosion resistant construction when specified. Made by **Pennsylvania Crusher Co.**, Liberty Trust Bldg., Philadelphia 7, Pa.

▲ Mention Item NED-3965 when writing ▲

## CONVEYOR BELT TAKE-UP

Available in sizes ranging from 15/16 to 1-5/16 inches, this conveyor belt take-up unit has sealed type self-lubricating porous bronze Ledaloyl bearing. Units are classified as A and B. Take-up travel is 6 inches. They are fabricated of pressed steel and have acid and corrosion resistant bearing housing. Because of construction, weight is held to minimum. Made by **Patron Transmission Co.**, Dept. 107, 129 Grand St., New York 13, N. Y.



▲ Mention Item NED-3966 when writing ▲

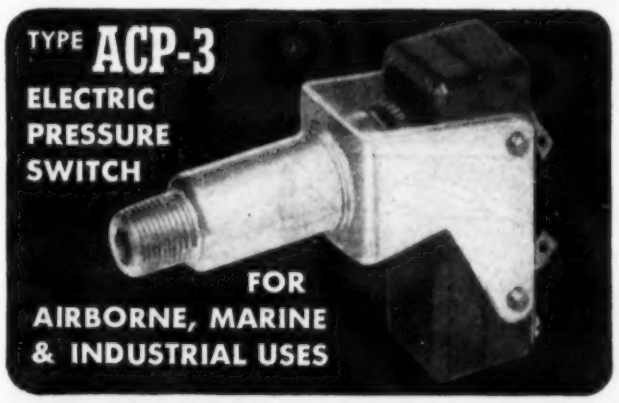
## COMPRESSED AIR FILTER

Designed to eliminate oil emulsion, moisture and solid impurities from compressed air lines, this transparent plastic bowl type air filter is offered in three sizes having ¼, ⅜ and ½-inch internal pipe size. Transparent bowl permits operator to see moisture being separated and to determine proper time when accumulated muck in quiet zone should be drained off through bottom cock.

Centrifugal force is utilized to separate moisture from air. Double right angle air inlet imparts violent swirling action to air as it enters filter and this action throws moisture against side of bowl where it collects and runs down to quiet zone. Thin plastic baffle with holes on periphery divides bowl into active and quiet zone. Two-hundred mesh Monel wire screen located directly above baffle plate removes all solid impurities as air leaves filter. Made by **C. A. Nergren Co.**, 222 Santa Fe Dr., Denver 9, Colo.

▲ Mention Item NED-3967 when writing ▲


TYPE **ACP-3**
**ELECTRIC PRESSURE SWITCH**



**FOR AIRBORNE, MARINE & INDUSTRIAL USES**

The Type ACP-3 Pressure Switch for industrial, marine and aircraft applications was developed for use in applications in which light weight and compactness, as well as ability to withstand severe shocks, are important.

The adjustable pressure ranges are from 20 to 150 psi within limits from 0 to 350 psi. Fixed differentials are available from 2 to 20 psi.

The snap acting switch is rated at 1200 watts, 110 to 220 volts AC non-inductive, 300 watts, 110-220 volts AC inductive and standard aircraft loads on DC.

This control may be used for controlling the pressures of liquids or gases non-injurious to brass.

Standard models of the ACP-3 are furnished with brass housings and a ⅛" NPT pressure connection. Electrical connections are of the solder type and switches may be set normally open, normally closed or double throw. Send for catalog sheet giving full details.

**United Electric Controls Company**
71 A STREET, BOSTON 27, MASSACHUSETTS

▲ Mention Item NED-3968 when writing ▲



*NEW...COMPACT*
## SULLIVAN
**"UNITAIR" WL-80**
**AIR COMPRESSOR**

**Two-Stage ... Air Cooled**
**Nine sizes from 15 to 100 H. P.**
**81 to 590 CFM...100 lb. pressure**

**Popular air-power source for small plants and foundries or for stand-by service. Smooth, vibration free operation, low maintenance.**
**Write for bulletin A-56** WAD 1 1177

SULLIVAN DIVISION
**JOY MANUFACTURING CO.**
HENRY W. OLIVER BUILDING · PITTSBURGH 22, PA.
*Consult a Joy Engineer*

▲ Mention Item NED-3969 when writing ▲



## SAVE MONEY
**WITH GUARANTEED MACHINE TOOLS**

**USED & RECONDITIONED EQUIPMENT**

24" Bullard New Era Turret Lathe, Thread. Att.
36" Bullard New Era Turret Lathe, Thread. Att.
42" Bullard New Era Turret Lathe
42" Bullard Vertical Boring Mill 2 heads
60" Bullard Vertical Boring Mill 2 heads
No. 25 G & L Horizontal Boring Mill, M. D.
No. 32 G & L Horizontal Boring Mill, M. D.
No. 45 G & L Horizontal Boring Mill, M. D.
No. 18 Blanchard Rotary Surface Grinder, 36" Chuck
16" x 18' American Geared Head Lathe 12 Speed
24" x 48" Ctrs. American Grd. Head Lathe, late type
36" x 38' American Geared Head Lathe 16 speed
No. 2 MH Cincinnati Plain Miller, late type
No. 28 & No. 38 Milwaukee D. O. A. Plain Miller
No. 4 & No. 5 Cincinnati Plain Miller, Rect. O. A.
No. 2 Cincinnati MS Dial Type Vertical Miller
No. 3 Cincinnati Vertical Miller, Motor-in-base
No. 4-48 Brown & Sharpe Gear Cutter
No. 60-H Gould & Eberhard Gear Hobber
No. 96-H Gould & Eberhard Gear Hobber
No. 0 Pfauter Gear Hobber, M. D.
2-1/2" to 7" American Triple Purpose Radial Drills
24" Cincinnati Universal Shaper, M. D.
24" Gemco Shaper, M. D. late type
24" Gould & Eberhard Shaper
32" Smith & Mills Shaper, Gear Box
No. 8 Marvel Band Saw, M. D.
13" x 16" Peerless Hack Saw
No. 2 Pratt & Whitney Jig Borer
No. 2L & No. 3L Gisholt Turret Lathe
No. 4A Werner & Swasey Univ. Turret Lathe, 12" hole
24" Bullard Rapid Prod. Turret Lathe
18" x 18' Sidney Monotrol G. H. Lathe
24" x 12' LeBlond Q. C. Lathe, C. D.
25" x 10' LeBlond Geared Head Lathe
24" x 26' Sidney Monotrol G. H. Lathe
**Many other tools of various sizes and types.**

**CINCINNATI MACHINERY CO., INC.**
220 E. 2nd ST., CINCINNATI 2, O.

▲ Mention Item NED-3970 when writing ▲



## NORMA-HOFFMANN
***Precision Bearings***

**Provide Dependable Service Under Every Load, Speed and Duty**

Regardless of varying operating conditions, you can depend on Norma-Hoffmann Precision Bearings, ball and roller, to give dependable, trouble-free performance in all types of equipment. 108 distinct series in over 3000 sizes from ⅛ inch to 22½ inches bore simplify your design problems by enabling you to pick a standard bearing to meet your application requirements. Write for catalog and engineering service.

**NORMA-HOFFMANN BEARINGS CORPORATION**
**STAMFORD, CONNECTICUT**

▲ Mention Item NED-3971 when writing ▲

**DUPOR RESPIRATOR No. 40**

U.S.B. of M. approved for Type "A" dusts. Over 40 sq. in. twin filter area. Weight 4 oz. Price $2.50.

**H. S. COVER, South Bend, Ind.**

▲ Mention Item NED-3972 when writing ▲



**VALVAIR Solenoid Valves**

*Diagram shows double-acting air cylinder operated by Valvair 4-way solenoid valve, spring return.*

**DEPENDABILITY** — That's outstanding in Valvair performance. Solenoids are Stellite-welded to resist wear; do not mushroom. Standard Valvairs have operated over 2,000,000 times at 100 lbs. with never a leak. *Exclusive features.* Patented basic design eliminates metal seats; non-corrosive (cast bronze body, stainless steel parts); full pipe area used with minimum drop. 2-way, 3-way, 4-way types. Get full details and prices.

*Ask for Bulletin "A-N"*

**VALVAIR CORPORATION • 454 Morgan Avenue, Akron 11, Ohio**

Valvair

▲ Mention Item NED-3973 when writing ▲



*Turn to*

**WELLMAN**

*for* **MAGNESIUM SAND CASTINGS**

also Aluminum and Bronze

•

**...WOOD or METAL PATTERNS**

Wellman offers you these advantages:

- *36 years' Experience* in the light metals, which frequently enables us to get into production months earlier on new castings.
- *Excellent Facilities* — three up-to-date plants — two foundries and a modern pattern shop; modern laboratories.

We shall be glad to quote on your castings' requirements. Catalog sent on request.

**THE WELLMAN BRONZE & ALUMINUM CO.**

2563 E. 93rd ST. • CLEVELAND 3, OHIO

▲ Mention Item NED-3974 when writing ▲


## PREFABRICATED CRANES

Line of cranes ranging from small jib to double girder overhead traveling type is available as complete crane or in unit parts ready for attachment to structural members. Units have safety factor of five or better and parts are furnished with cut gears, pressure gun lubrication and ball or roller bearings. Engineering, design and shop drawings for any type crane can be purchased to enable company or shop to fabricate its own crane. Service offered by **Downs Crane & Hoist Co.**, 540 W. Vernon Ave., Los Angeles 37, Calif.

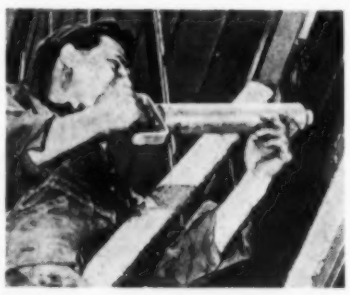
▲ Mention Item NED-3975 when writing ▲

## SAFETY CONTAINERS

Designed for storing or carrying gasoline, kerosene, benzene, turpentine, cleaning fluids and other inflammable liquids, these Safe Guard safety containers are available in 1, 3 and 5-gallon sizes. They also prevent evaporation of noninflammable fluids. Containers are constructed of terne plate, lead coated inside and out, and finished in red enamel. Pouring spout is of nonsparking die cast brass. If tipped over, leakage is held to minimum. Two larger sizes have reinforced bottoms Covered spout closure spring prevents accumulation of dust and dirt. Double screen cadmium coated steel flame arrester is available as optional equipment. Made by **General Detroit Corp.**, 2272 E. Jefferson Ave., Detroit 7, Mich.

▲ Mention Item NED-3976 when writing ▲

## EXPLOSIVE DRIVING TOOL

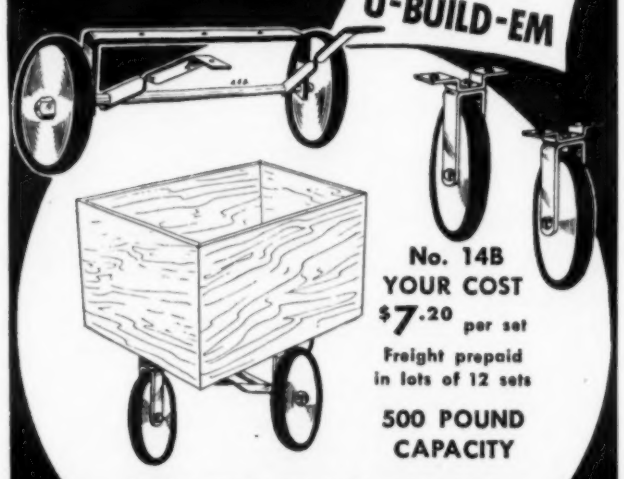


Capable of delivering 20-ton blow derived from a small charge of explosive powder encased in cartridge, this Drive-It powder powered tool will instantly anchor studs as much as 3 inches in concrete, punch holes through ⅜-inch steel plate, or rivet two steel plates together having total of ¾-inch in thickness. Tool is applicable especially for inserting expansion shields and bolts, inserting threaded studs into ceilings for hanging pipes or conduits, hanging brackets to concrete masonry walls or to structural steel, and for fastening sleepers to concrete floors.

Powder cartridge is the size of 38-caliber pistol shell and will not fire unless tool is forced vigorously against work. It cannot be discharged as result of falling. Special recoil mechanism absorbs all shock. Made by **Powder Power Tool Corp.**, 618 N. Vancouver Ave., Portland, Ore.

▲ Mention Item NED-3977 when writing ▲


**BUILD YOUR OWN TOTE-TRUCK ANY SIZE...WITH PRACTO U-BUILD-EM**



**No. 14B**
**YOUR COST**
**$7.20** per set
Freight prepaid in lots of 12 sets

**500 POUND CAPACITY**

Attach a wooden case to this sturdy chassis and you have a 500 lb. capacity tote-truck. 9" wheels—steel welded—Jumbo rubber tires—furnished complete as shown without box.

Individually boxed
6 to a carton
Weight 50 lbs.

*Another famous* INTERNATIONAL *product!*

*International Manufacturing Company*

712 BEACON STREET BOSTON 15, MASS

▲ Mention Item NED-3978 when writing ▲



**"FLORLINE"**

**The Marking Machine That Makes Safety and Parking Lines at Walking Speed!**

OPERATES ON GRAVITY FEED: Replaces slow hand methods. Enthusiastic acceptance everywhere! Used and endorsed by factories, auto dealers, parking lot operators and road commissioners. Fast and lightweight. One man . . . one hand operation. Easy to use . . . easy to clean . . . nothing to go wrong. Compact, sturdy, portable. Makes curved or straight lines. Choice of 2, 3 or 4 inch lines. Holds paint, lacquer or whitewash.

**$89.50**
**F.O.B. Detroit**

*Dealerships available some areas*

**H. C. SWEET CO.**

3729 Fenkell St. Detroit 21, Michigan

▲ Mention Item NED-3979 when writing ▲



**COMPARE Design! Performance! Low Cost!**

and YOU WILL FIND **HOMER** NON-ELECTRIC PERMANENT MAGNETS *LEADING the* FIELD

Yes . . . Compare! For the removal of tramp iron and steel particles from all types of free-flowing solid, pulverized or fluid materials, you will find Homer Permanent Magnetic Separators leading the field in Design . . . Appearance . . . Performance and Low-Cost. If tramp metal presents a hazardous condition to your Plant, Product or Personnel, consult Homer at once for recommendations on positive and complete removal during processing operations. Non-Electric—No Wires—No Maintenance. Literature sent upon request.

The HOMER Manufacturing Co., Inc.

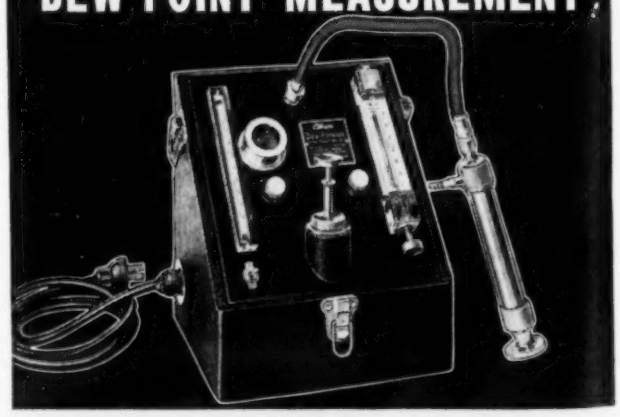
Department I-259

LIMA · · OHIO

▲ Mention Item NED-3980 when writing ▲



**FASTEST, MOST ACCURATE DEW POINT MEASUREMENT**



**with the ALNOR Dewpointer!**

EXCLUSIVE ALNOR ADVANTAGES

- No external coolant required! True portability and convenience.
- Dew or fog is observed suspended in air—not on a polished surface! Two or more observers get same accurate results!
- Greater speed in measurement!
- Greater accuracy at all times!

***Send for details and prices!*** Address Illinois Testing Laboratories, Inc. Room 529, 420 N. La Salle St., Chicago 10, Ill.

*Alnor* PRECISION INSTRUMENTS FOR EVERY INDUSTRY

▲ Mention Item NED-3981 when writing ▲

**PROTECTS *floors*! SAVES *money*!**

Rubberlike runner protects heavy traffic floors, quiets noisy floors, fights worker fatigue. Reduces accidents on slippery floors. Widely used in mills, offices, factories, hotels, cafes, institutions — on any busy floor.

Rubberlike runner saves cleaning, saves floors — gives years of service at petty-cash cost.

No installation — just unroll, lies flat without cement — edges won't curl. In rolls, 27" x 100', 36" x 75'. Order from jobber or write for sample.

Bird & Son, inc., 180 Wash. St., East Walpole, Mass.

**RUBBERLIKE* Runner**

PATENTED NON-RUBBER CONSTRUCTION

BIRD PRODUCTS

*Reg. U. S. Pat. Off.

▲ Mention Item NED-3982 when writing ▲

**Oxweld**

**PORTABLE FLAME-CUTTING MACHINES FILL A VARIETY OF SHOP REQUIREMENTS**

This Oxweld CM-16 is designed for oxy-acetylene flame-cutting of steel plate up to 4 inches thick. It travels directly on the work and cuts circles automatically—hand-guided, it cuts irregular shapes. Operated on track this machine cuts straight lines. Adaptors are available for straight-line cutting on thick steel or for beveling. The CM-16 weighs only 45 pounds and is low in price. Write for catalog, Form 4487.

THE LINDE AIR PRODUCTS COMPANY
*Unit of Union Carbide and Carbon Corporation*
30 East 42nd Street UCC New York 17, N. Y.
In Canada: Dominion Oxygen Company, Limited, Toronto

▲ Mention Item NED-3983 when writing ▲

**LYON GRAVITY ROLLER CONVEYORS**

These modern conveyors combine the advantages of minimum weight, high load capacity and quick, easy installation. Lively ball-bearing-equipped rollers built with special adapters which insure perfect alignment under all conditions. Made in 3 widths and packaged in 10' lengths. Available for immediate delivery in most localities while present dealer's stocks last.

**LYON METAL PRODUCTS, INCORPORATED**
**General Offices: 722 Monroe Avenue, Aurora, Ill.**
**Branches and Dealers in All Principal Cities**

**A PARTIAL LIST OF LYON PRODUCTS**

| | | | |
|---|---|---|---|
| • Shelving | • Kitchen Cabinets | • Filing Cabinets | • Storage Cabinets |
| • Lockers | • Display Equipment | • Cabinet Benches | • Bench Drawers |
| • Wood Working Benches | • Hanging Cabinets | • Folding Chairs | • Work Benches |
| • Economy Locker Racks | • Welding Benches | • Drawing Tables | • Drawer Units |
| • Conveyors | • Tool Stands | • Flat Drawer Files | • Tool Boxes |
| • Shop Boxes | • Service Carts | • Tool Trays | • Sorting Files |
| • Bar Racks | • Hopper Bins | • Desks | • Ironing Tables |
| • Bin Units | • Parts Cases | • Stools | |

▲ Mention Item NED-3984 when writing ▲


## COOLING TOWER

Engineered for indoor or outdoor service, this Aquatower cooling tower is furnished as packaged unit ready for operation and capacities range from 3 to 15 tons of refrigeration for either air conditioning or refrigeration service. Sturdy fan assures safe operation. Heavy welded steel case has painted aluminum finish. Tower can be furnished with or without pumps. All component parts are readily accessible for servicing. Complete operation and maintenance instructions are furnished with each unit. Made by **Marley Co., Fairfax & Marley Rds., Kansas City 15, Kans.**

▲ Mention Item NED-3985 when writing ▲

## INDUCTION HEATING UNIT

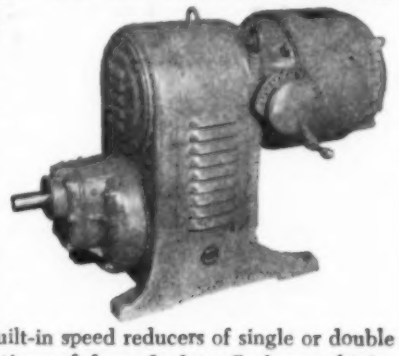
Bench type 750-watt, 450,000-cycle Toccotron induction heating unit is designed for silver brazing and soldering and also is adaptable for hardening, annealing and forging applications within its power capacity. Unit is low in cost and is of tube oscillator type. It operates from 110/120-volt single phase, 60-cycle current source and is tapped to accommodate either single or multiple turn inductor coils.

Unit is suitable for automatic or manual operation and is designed to function continually at full load for mass production work. Inductor coils can be made readily by forming copper tubing or wire to required shape. Made by **Ohio Crankshaft Co.,** Dept. 3, 3800 Harvard Ave., Cleveland 1, O.

▲ Mention Item NED-3986 when writing ▲

## MULTISPEED MOTOR DRIVE

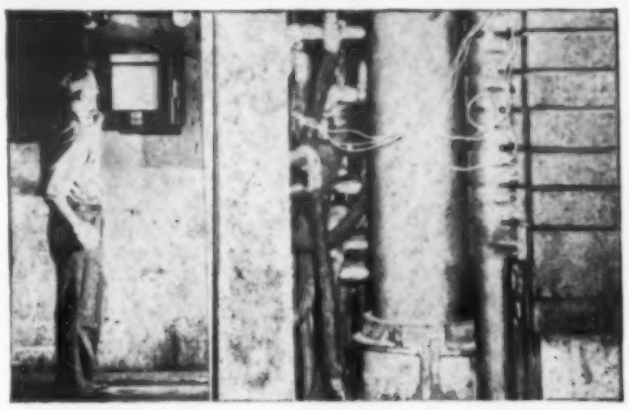
Four improvements are incorporated in size 23 Varidrive electric motor drive which result in smaller size unit for given horsepower, longer belt life, convenient positioning of speed adjusting handwheel and provision for simplified change of Varibelts when necessary. Variety of assemblies is available to suit almost any application. They include horizontal frame with shaft left or right, straight frame with shaft high or low and built-in speed reducers of single or double reduction. Speed variations of from 2 : 1 to 7 : 1 are obtainable with up to 5-horsepower output. Made by **U. S. Electrical Motors, Inc.,** 229 E. Slauson Ave., Los Angeles 54, Calif.



▲ Mention Item NED-3987 when writing ▲

▲ Mention Item NED-3988 when writing ▲





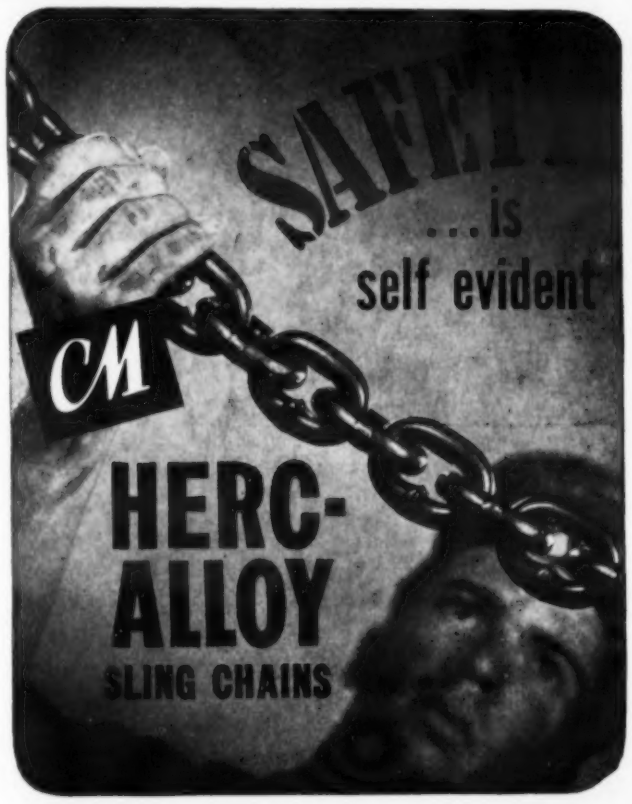
**SPEEDOMAX PYROMETER RECORDS PLASTIC-CURING TEMPERATURES**

Curing temperatures in the Formica Insulation Co.'s laminating presses are recorded in exceptionally rapid succession by a Speedomax high-speed pyrometer. Speedomax's high sensitivity and unusual "across-the-chart" speed enable it to keep pace with fast-changing temperatures, and to handle short ranges and low temperatures with full accuracy. Ask for Catalog ND46(1).

LEEDS & NORTHRUP COMPANY, 4901 STENTON AVE., PHILA. 44, PA.
LEEDS & NORTHRUP
MEASURING INSTRUMENTS · TELEMETERS · AUTOMATIC CONTROLS · HEAT-TREATING FURNACES
Jrl. Ad N-33A-680(1a)

▲ Mention Item NED-3989 when writing ▲






A simple visual inspection* is all that is needed to determine the continued serviceability of a HERC-ALLOY Chain. That's why more and more of the important companies are standardizing on HERC-ALLOY...because HERC-ALLOY Chains are immune to unseen dangerous crystallization...because you can see when a HERC-ALLOY Chain needs repairs or replacing.

**Write for your copy of this new, informative booklet. No charge.*

**HERC-ALLOY FEATURES**

- **America's *first* alloy steel sling chain...first to bear a serial number.**
- **Every CM HERC-ALLOY Sling Chain is alloy steel throughout...links, rings, hooks. There is only one grade...*the best*.**
- **Every chain is individually tested and accompanied by a certificate of registration.**
- **Links are side welded for maximum strength by patented INSWELL electric method.**
- **HERC-ALLOY Chains should *never* be annealed.**
- **HERC-ALLOY Chains are lighter...stronger...easier to handle...outlast ordinary chains 4 to 5 times...cost less on the job.**

**HERC-ALLOY...the chain you can *SEE* is safe**

**COLUMBUS-McKINNON**
**CHAIN CORPORATION**
*Affiliated with Chisholm-Moore Hoist Corporation*
GENERAL OFFICES AND FACTORIES: TONAWANDA, N. Y.
SALES OFFICES: New York • Chicago • Cleveland • San Francisco • Los Angeles

▲ Mention Item NED-3990 when writing ▲

## But It's Just a Pin!

Yes, it's a pin—just a small pin. But it requires 11 distinct and precise operations to make it. For this is a pin for a link of UNION roller chain. In the short length of Union roller chain shown below there are 4 of these steel pins, together with 24 other separate parts. To make these 28 separate parts 290 operations are required.

As specialists in the manufacture of chains, sprockets and attachments (we make nothing else!), we point with some pride to the high standards of skill and precision maintained by our engineers and craftsmen at UNION CHAIN. We are not yet able to meet the overwhelming demand for UNION chain, but we assure our customers we are making every effort to do so, consistent always with the character of our product and the complicated processes of its manufacture.

UNION CHAINS

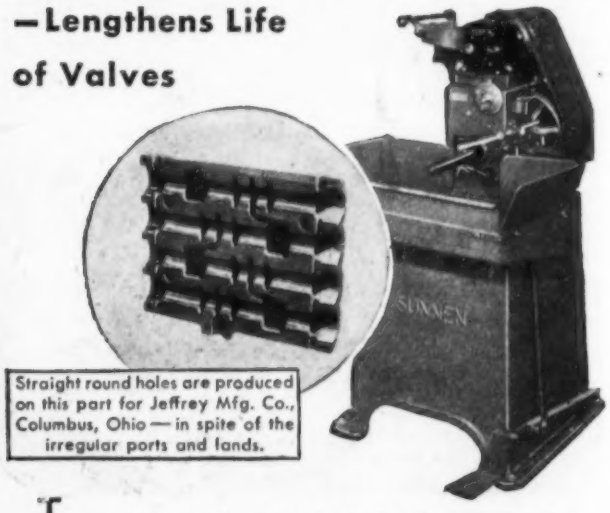
**THE UNION CHAIN AND MANUFACTURING CO.**
Sandusky, Ohio, U. S. A.

▲ Mention Item NED-3991 when writing ▲



## SUNNEN PRECISION HONING

**Finishes Internal Diameters on Valve Parts Quickly and Accurately —Lengthens Life of Valves**



Straight round holes are produced on this part for Jeffrey Mfg. Co., Columbus, Ohio — in spite of the irregular ports and lands.

These photographs show typical valves and valve parts on which Sunnen Precision Honing saves time, produces base metal finishes, and straight round holes free of bellmouth and taper. This means that a honed valve can be fit closer, will wear longer and seal better . . . right up to the edge of a port.

The Sunnen Precision Honing Machine is versatile — handles every internal diameter from .120" to 2.625" in any metal, plastic, glass or ceramic material, except lead and babbitt. New sizes are accommodated by small investment in new mandrels.

The sizing control on the Sunnen Precision Honing Machine permits removing as little as .0001", to produce a perfect fit. Maintains previously established alignment — duplicates sizes easily — requires no jigs or fixtures — can be set up ready to operate in one minute.

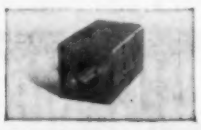
For additional information, write for bulletin XMAN-5000, or ask a Sunnen engineer to show you how Sunnen honing can be used in your plant.

SUNNEN

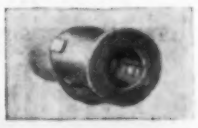
**SUNNEN PRODUCTS COMPANY**
7931 Manchester Ave., St. Louis 17, Missouri
*Canadian Factory: Chatham, Ontario*

223

Bronze valve. The Sunnen Precision Hone is used to secure high finish and accuracy.



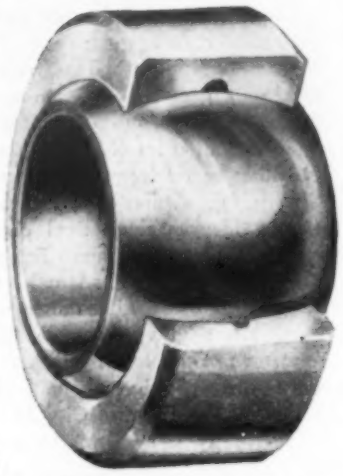
Saved time in producing a smooth accurate finish on this bronze remote control valve body.



Smooth accurate finish is produced on this bronze oil burner valve part with .001" to .002" stock removal.

▲ Mention Item NED-3992 when writing ▲

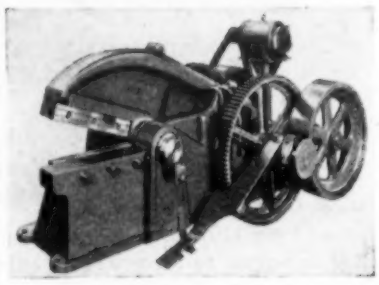

## SELF-ALIGNING BEARING



Adaptable for use in such applications as rod end, rotating or static bearing or self-aligning bushing, this Halfco spherical self-aligning bearing can be supplied in wide variety of metal constructions to meet specific installation requirements. It consists of two parts. Standard type is constructed with hard bronze outer race which is integrally formed around hardened and ground steel ball. Full spherical surface contact permits extremely heavy loading and it further resists both axial and radial thrusts. Made by **Adel Precision Products Corp.,** 10777 Van Owen, Burbank, Calif.

▲ Mention Item NED-3993 when writing ▲

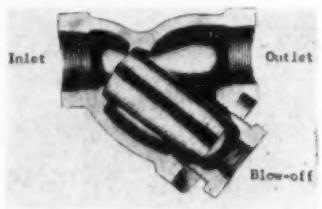
## AUTOMATIC ALLIGATOR SHEAR



Designed for use where accurate dimensional cutting is required, this Milwaukee automatic alligator shear is available in seven sizes and in variety of styles to meet wide range of requirements. Foot operated clutch and brake mechanism permits operator to feed shear and adjust cut as desired. Entire working mechanism is positive and safe. If continuous operation is desired, foot treadle can be latched down. Made by **Doelger & Kirsten Corp.,** 3015 W. Chambers St., Milwaukee, Wis.

▲ Mention Item NED-3994 when writing ▲

## Y-TYPE STRAINER



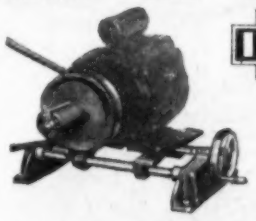

Y-type strainer designed for use in steam, air, gas, oil or water lines can be cleaned quickly and easily by opening blowoff cock to flush grit and dirt by means of line pressure. Unit is suitable for operation on steam pressures up to 250 pounds per square inch and at temperatures up to 450 F. Strainer can be used on cold liquid or gas lines with up to 400 pounds per square inch pressure.

Free hole area of screen element body is from 2 to 4 times area of pipe connection depending on service for which strainer is used and size of strainer. Any one of several types of strainer elements regularly furnished with strainer body will prevent fine particles of dirt and scale from passing into traps, pressure reducing valves and other sensitive line equipment. Made by **Wright-Austin Co.,** 324 W. Woodbridge St., Detroit 26, Mich.

▲ Mention Item NED-3995 when writing ▲


## Variable Speed *on the machine* Saves TIME — Speeds PRODUCTION!

LOVEJOY IDEAL CHICAGO

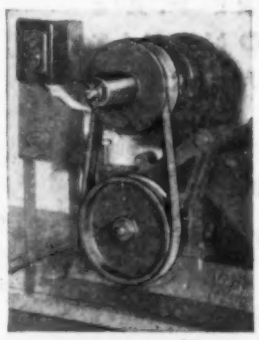


Inexpensive control for fractional h.p. drives. Ratio 2.75 to 1. Mounts directly to motor shaft.

for 1 to 8 h.p. drives where max. speed is desired. Ratio 3 to 1. Complete drive available.

## VARIABLE SPEED PULLEYS

***Easily installed with old or new machines***



Speed pulley included in machine design.

Five sizes furnished as complete drives with wide V-Belts and driven sheaves. Old fixed speed machines can be modernized by Lovejoy IDEAL Pulleys at LOW COST. Pulleys also give new machines additional selling value. Easy finger-tip control. Compact. Durable. DELIVERIES FROM STOCK.

**Send for Complete Catalog.**

Also shows "Select-O-Speed", ratios up to 10:1; Wide V-Belts; Adjustable Motor Bases; Driven Sheaves; Countershafts. Write or wire.

**LOVEJOY Flexible Coupling Co.**
*Also mfrs. of Lovejoy Flexible Couplings*
5003 W. Lake Street, Chicago, Ill.

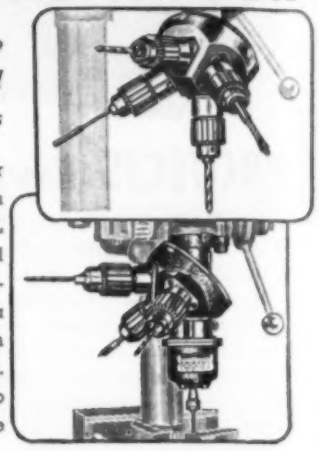
▲ Mention Item NED-3996 when writing ▲



## 11 HOLES DRILLED (3 DIFFERENT SIZES) and 2 HOLES TAPPED in 25 SECONDS (ON ONE PRESS)

SLASH COSTS WITH **QUADRILL and QUAD-TAPPER**

*Speed Up Drilling and Tapping Operations*



You, too, can offset higher wages by getting production costs down! Let QUADRILL (4 position drill head) and QUAD-TAPPER cut your manufacturing costs. Quick as a flash, operator indexes from one size drill or tap to another. No loss of productive time. No need to move part from one station to another.

Write today for literature and prices

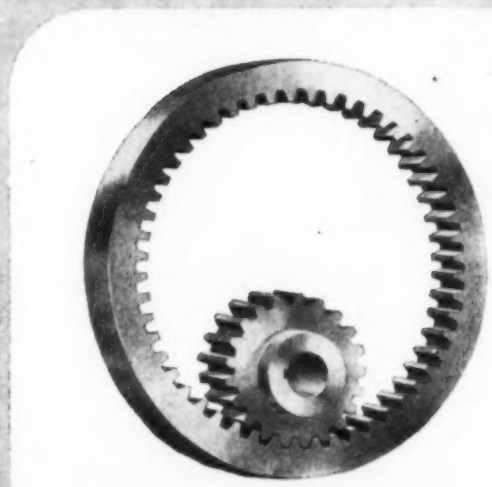
**CHICAGO DRILLET CORPORATION**
1755 N. WINCHESTER AVE., CHICAGO 22, ILLINOIS

▲ Mention Item NED-3997 when writing ▲



## "Industrial"

CUT GEARING — ALL TYPES AND MATERIALS
ROLLER AND SILENT CHAIN SPROCKETS



INTERNAL GEAR

MAKE IT A HABIT TO SEND US YOUR ORDERS

**INDUSTRIAL GEAR MFG. CO.**
4541 VAN BUREN STREET CHICAGO 24, ILLINOIS

▲ Mention Item NED-3998 when writing ▲



## These low-cost DIAMOND-STUDDED WHEEL DRESSERS

**. . . eliminate re-setting time and expense!**

*A big improvement over single-point stones!* When the diamond cutting surfaces wear off, you don't send *this* dresser out for re-setting—instead, a simple ¼ turn in the holder presents a new layer of diamond points—ready to go to work at once! You save the expense of re-setting—you save time, too (the dressers never leave your shop). And you get *uniform fine dressing* because dresser efficiency doesn't depend on the unpredictable quality of *one* stone, but upon the average of MANY.

Layer upon layer of selected industrial diamonds are anchored in a special Carboloy Cemented Carbide matrix to prevent accidental diamond loss. Particles large and small are held securely throughout dresser's entire useful life.

Available in 3 sizes for rough, semi-finish and finish dressing. Economically-priced. Investigate this money-saving method at once—leaflet SA-127 answers all questions—write for it today.

**CARBOLOY COMPANY, INC. • 11163 E. 8 Mile Blvd., Detroit 32, Mich.**
*Also Sold By Leading Mill Supply Distributors*

**CARBOLOY**

WHEEL DRESSERS

▲ Mention Item NED-3999 when writing ▲

# 47 SIZES AND STYLES OF CLECO CHIPPERS

No. 3WA Chipper with ratchet lock handle.

This varied line offers the *exact* tool for *every* chipping, calking, beading, and scaling need. Either the open or closed style of handle may be had. There is also a choice of two valve mechanisms, both efficient and practically breakage-proof. Cleco Chippers use a throttle valve that graduates the air supply, thus giving a smooth start to the piston, minimizing recoil and making the hammer easy to hold and control on the work. Plungers and chisel bushings are made of hardened and tempered tool steel, ground to close limits. The cylinders are made of selected alloy steels, carefully heat treated to insure super strength. *Send for Bulletin 75B.*

Cleco PNEUMATIC TOOL DIVISION of THE REED ROLLER BIT COMPANY
P. O. BOX 2119 • HOUSTON 1, TEXAS

▲ Mention Item NED-4000 when writing ▲



For Hydraulically Driven Machinery

# VICKERS HYDRAULIC (OIL) PUMPS

Vickers Vane Type Pumps, having the exclusive pump design features which have revolutionized oil hydraulic power methods, are available in hundreds of sizes and types:

1 G.P.M. to 60 G.P.M. Pumps, to 1000 P.S.I. . . . . Bulletin 40-25
Two-Stage Pumps to 2000 P.S.I.—2 G.P.M. to 57 G.P.M. . . . . Bulletin 40-16
Two-Pressure Large-Small Volume Pumps . . . . . Bulletin 28-14

Applications include hydraulically operated machine tools, presses, plastic and die casting machines, special processing machines, road machinery, etc.

Write for information covering your requirements.

VICKERS *Incorporated*
Oakman Blvd. • DETROIT, MICHIGAN

▲ Mention Item NED-4001 when writing ▲

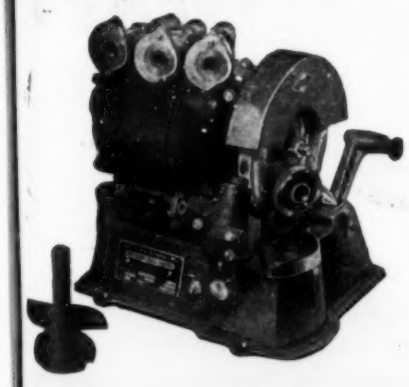


# BLACK DIAMOND
PRECISION DRILL GRINDER

ONLY GRINDER AVAILABLE FOR AUTOMATIC SHARPENING OF SMALL GAUGE AND FRACTIONAL DRILLS. OF COURSE ITS A BLACK DIAMOND.

BLACK Diamond Grinders release skilled labor for more important work . . . cut labor and grinding costs on small gauge and fractional drills 50% and more . . . save expensive drill stock . . . reduce breakage . . . quickly pay for themselves . . . and the Web Thinning attachment efficiently cares for Notched, Colton or Crank Shaft Points.

With this machine, anyone becomes a skilled operator in a few minutes . . . can't make mistakes . . . can produce quantities of small drills, ground to perfection with true centres and smooth lips of uniform length . . . correct angle and proper clearance for accurate, speedy drilling.



TOOLS BLACK DIAMOND GRINDERS

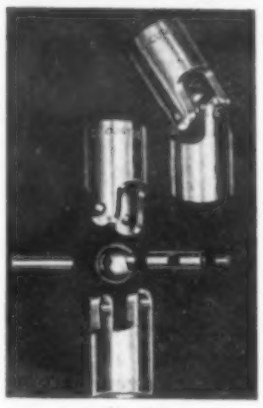
If you use small drills, singly or in gangs . . . you are losing important time and money unless you have a Black Diamond Grinder on the job.

*Full details on request.*

BLACK DIAMOND SAW & MACHINE WORKS, INC.
NATICK, MASSACHUSETTS

▲ Mention Item NED-4002 when writing ▲

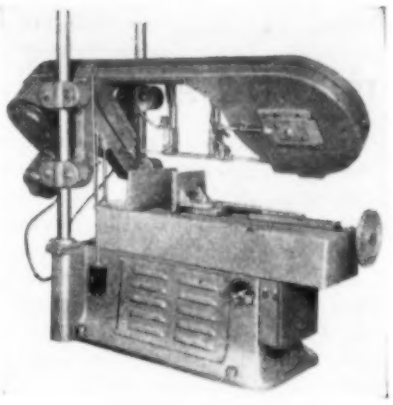

## BALL TYPE UNIVERSAL JOINT



Low cost and minimum amount of friction are features of this ball type universal joint. Steel forks bear on bronze ball. Pivot bearing pins are heat treated and centerless ground. Integral oiler in large pivot pin assures proper lubrication of all bearing points. Ball surface offers little friction loss. Joints can be furnished in ½-inch and ¾-inch diameter. They are recommended for high speeds at light loads. Made by **Curtis Universal Joint Co.**, Dept. D, Birnie Ave., Springfield 7, Mass.

▲ Mention Item NED-4003 when writing ▲

## METAL-CUTTING BAND SAW



Featuring automatic cutting cycle in which blade is fed into work at constant pressure and cutting head is returned by hydraulic power to its starting position above work at completion of cut, No. 12 heavy duty horizontal metal-cutting band saw has cutting speeds of 50, 90 and 150 feet per minute. Saw will cut rectangular stock up to 12 inches thick by 16 inches wide, or cylindrical stock up to 12¾ inches in diameter. In addition to cutting through stock, machine can be controlled automatically to cut to any desired depth for work on dies or other parts. Base and bed of saw are heavy castings and cutting head rides on closely fitted rollers on two heavy columns. Hydraulic system is enclosed in base. Saw blade is enclosed except at cutting zone, and vise is quick-acting type. Blade is driven by ¾-horsepower electric motor, and 1/3-horsepower motor drives hydraulic pump. Made by **Wells Mfg. Corp.**, Seventh Place, Three Rivers, Mich.

▲ Mention Item NED-4004 when writing ▲

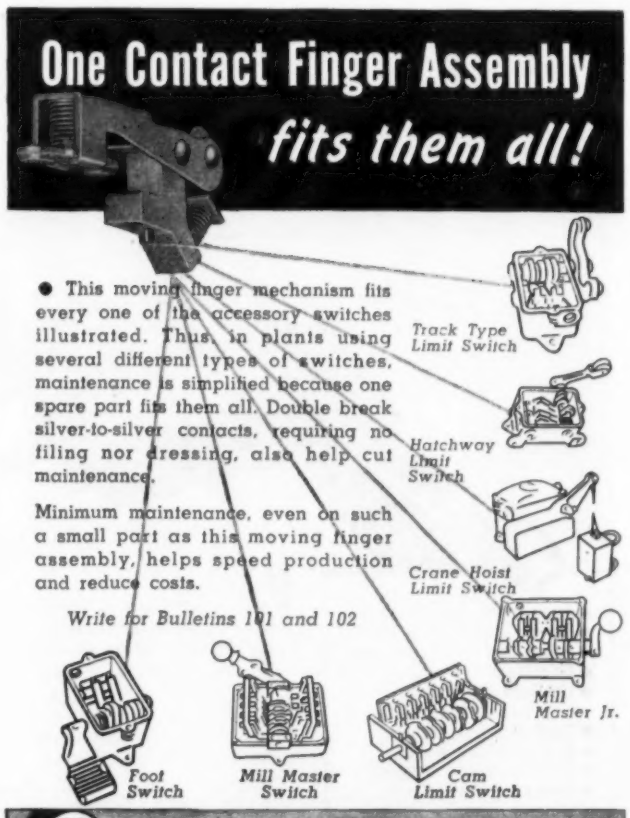
## PNEUMATIC GRINDER

Available in three models, line of portable pneumatic Skil grinders is suitable for die grinding, burring, rotary filing and use with wire-size drills. Uninterrupted operation at free

speeds up to 25,000 revolutions per minute is practical because of extra large, widely spaced ball bearings and design of rotor. Dimensions for three models are 7 inches long and 1½ inches in diameter. Each tool weighs slightly more than 1 pound. Made by **Skilsaw, Inc.**, 5027 Elston Ave., Chicago 30, Ill.

▲ Mention Item NED-4005 when writing ▲


# One Contact Finger Assembly *fits them all!*




● This moving finger mechanism fits every one of the accessory switches illustrated. Thus, in plants using several different types of switches, maintenance is simplified because one spare part fits them all. Double break silver-to-silver contacts, requiring no filing nor dressing, also help cut maintenance.

Minimum maintenance, even on such a small part as this moving finger assembly, helps speed production and reduce costs.

*Write for Bulletins 101 and 102*

THE CLARK CONTROLLER CO.
EVERYTHING UNDER CONTROL • 1146 EAST 152nd STREET, CLEVELAND 10, OHIO

▲ Mention Item NED-4006 when writing ▲



# MILL IT...ON YOUR LATHE!

# PALMGREN
MILLING ATTACHMENT
Converts Lathe in 10 Seconds
3 SIZES $18.75 UP

Now you can Mill, Slot, Grind, Groove, Square Shafts, Saw at Angles, Recess and many other important jobs. SAVE TIME and MONEY! Why send work out or use costly methods when a PALMGREN MILLING ATTACHMENT will solve your problem.

Precision built, it has accurate graduations for rotary angle adjustments, also graduated vertical feed screw. Fits South Bend, Atlas, Craftsman, Logan, Sheldon and all other lathes. Thousands now in use in small and large machine shops, repair shops, railroads, schools, home work shops, etc. ORDER SIZE NEEDED TODAY!—it will quickly pay for itself.

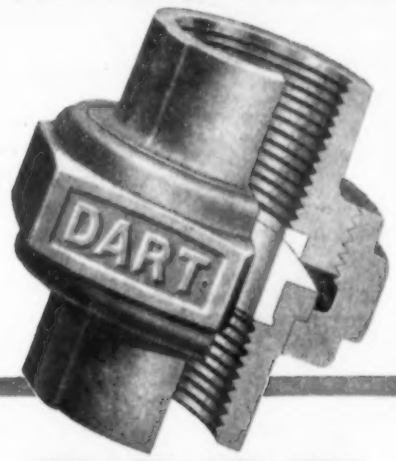
| IMMEDIATE DELIVERY | Nos. | Width Jaws | Depth Jaws | Jaws Open | Weight Pounds | Fits Tool Post | Price F.O.B. Factory |
|---|---|---|---|---|---|---|---|
| | 150 | 1½" | 1" | 1⅝" | 6½ | 1" Dia. | $18.75 |
| | 250 | 2½" | 1⅛" | 2½" | 11 | 1¼" Dia. | 24.75 |
| | 400 | 4" | 1½" | 4" | 25 | 2" Dia. | 39.75 |

*Order From Your Dealer or Jobber: Write for Circular No. 351*

CHICAGO TOOL AND ENGINEERING CO.
*Manufacturers of PALMGREN PRODUCTS for Over 25 Years*
8378 SOUTH CHICAGO AVE. CHICAGO, 17 ILLINOIS

▲ Mention Item NED-4007 when writing ▲






# DART
## The Union for Leak-Proof Protection

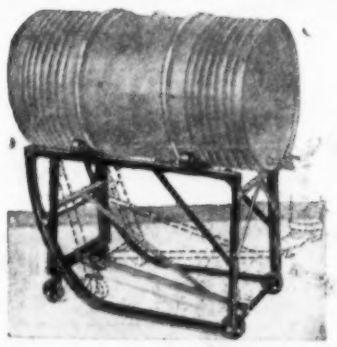
**The two bronze seats are ground to form a** *true ball joint* Dart Unions insure leak-proof protection because their two bronze seats are *precision-ground*. This means that they fit tighter and close easily, without excessive wrenching, to a drop-tight connection. Despite length of service, they uncouple easily for use elsewhere—and they cost least in the long run. Body and nut, made of high-test, air-refined malleable iron, are practically indestructible.

Ask your supplier to demonstrate the many features of Dart Unions.

**E. M. DART MFG. CO., Providence 5, Rhode Island**

▲ Mention Item NED-4008 when writing ▲





# Drum and Barrel Racks

**PROVIDES SAFE, EASY HANDLING OF BARRELS AND DRUMS, ELIMINATES WASTE AND SAVES TIME**

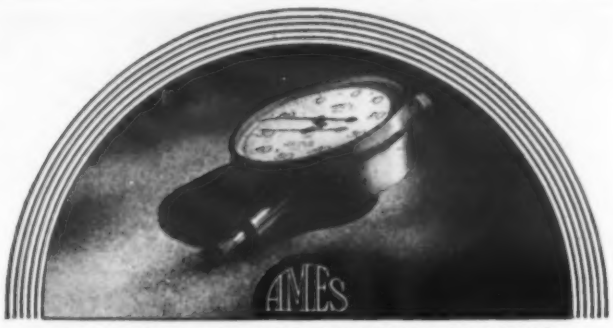
Rotating wheels at top of frame allow drums and barrels to be readily put into position for removing part of liquid or for draining.

**RIGIDLY CONSTRUCTED...AND EQUIPPED WITH HEAVY DUTY WHEELS AND SWIVEL CASTERS**

WRITE FOR BULLETIN NE-77

IPCO *Safety Equipment for all Industries*
INDUSTRIAL PRODUCTS COMPANY
2807 N. FOURTH STREET • PHILADELPHIA 33, PA.

▲ Mention Item NED-4009 when writing ▲

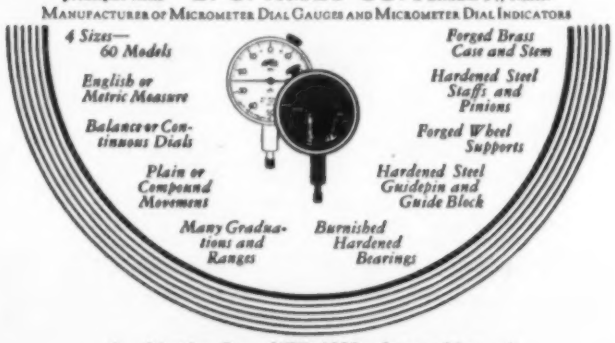



*GOOD IN THE 4TH DIMENSION, TOO!*

For tool checking or tough production jobs, Ames Dial Indicators are *time*-conserving as well as sensitive and accurate. They're *quickly* mounted and adjusted. Their dials are *instantly* readable. But *most time-saving* is their ability to stay *right* on the job, without internal adjustment—*longer* than any other indicator you can buy. Send for illustrated Catalogue.

*Representatives in principal cities* B. C. AMES CO. *34 Ames Street Waltham 54, Mass.*

MANUFACTURER OF MICROMETER DIAL GAUGES AND MICROMETER DIAL INDICATORS




▲ Mention Item NED-4010 when writing ▲

*Logan*

A NAME TO REMEMBER WHEN YOU THINK OF BETTER LATHES AND SHAPERS

No. 820 Quick Change Gear Lathe

LASTING ACCURACY

**Another Reason Why More Industries Every Year Use Logan Lathes**

The ability of the Logan Lathe to work to closest tolerances after years of usage results from advanced design and precise construction methods. The Logan ball bearing mounted spindle, for example, is constant in its accuracy through all speed ranges and under all operating conditions. Headstock bearing faces are held to an accuracy of .0005". Total spindle run-out 12 inches from the bearing is less than .0008". Bed ways are within .0005" of parallelism. Rugged, massive construction is combined with these precision standards. Vital points of the lathe are protected by self-lubricating bronze bearings. It is this careful building that gives the Logan Lathe its lasting accuracy Full information on Logan Lathes and Shapers on request. U-3

**SPECIFICATIONS COMMON TO ALL LOGAN LATHES** . . . swing over bed, 10½" . . . bed length, 43½" . . . size of hole through spindle, 25/32" . . . spindle nose diameter and threads per inch, 1½"—8 . . . 12 spindle speeds, 30 to 1450 rpm . . . motor, ½ hp, 1750 rpm . . . ball bearing spindle mounting . . . drum type reversing motor switch and cord . . . precision-ground ways, 2 V-ways and 2 flat ways.

DISTRICT OFFICES • Woolworth Bldg. New York 7, N. Y. Cortland 7-8024 • 550 W. Washington Blvd. Chicago 6, Illinois Central 1246 • 1672 Mission Street San Francisco, Calif. Underhill 6682

**LOGAN ENGINEERING CO.** CHICAGO 30, ILLINOIS

▲ Mention Item NED-4011 when writing ▲

Save Machining Costs

ON RINGS AND RING-SHAPED PARTS

Cut material and machining costs on ring-shaped parts by letting us form and weld them from bar, plate or special-section stock. Present users save up to 50%. Rings to your specification from Low or High Carbon, Alloy and Stainless Steel, Brass or Bronze. Sizes 4" to 72" diam.—up to 16 sq. in. cross section. Send blueprint or sketch with inquiry.

DRESSER MANUFACTURING DIVISION, BRADFORD, PA.

**DRESSER** RINGS

ONE OF THE DRESSER INDUSTRIES

▲ Mention Item NED-4012 when writing ▲


## INDUSTRIAL TRUCK

Extending capacity of series H Shop Mule industrial trucks, this model H-120 unit has drawbar pull of 12,000 pounds and towing capacity of 240 tons. Other models available have drawbar pull of 7500 and 9000 pounds. Dual wheels at rear, large tires, wide wheel tread and heavy weight for maximum traction make this truck adaptable for hauling large loads over rough terrain, track crossings and through unpaved storage grounds. Unit has two-wheel front steering control, vertical steering column for minimum height and selective sliding gear type transmission. It is powered by six-cylinder, 68.5-horsepower engine and weighs 15,500 pounds. Overall height is 60 inches and turning radius is 144 inches. Wheel sanders, head and tail lights and rear wheel guards are available as extras. Made by **W. F. Hebard & Co.**, 336 W. 37th St., Chicago 9, Ill.

▲ Mention Item **NED-4013** when writing ▲

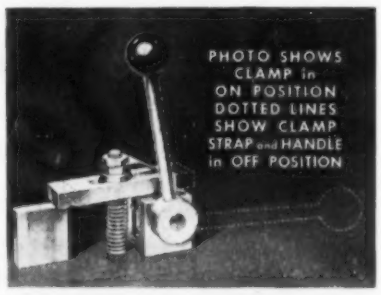
## PLASTIC APRON

Impervious to oils, grease and water and highly resistant to acids, alkalies and chemicals, Gardwell heavy duty Oil-Chem aprons are made of pliable plastic material. They are brown in color, measure 0.015-inch thick and are fitted with grommets and tie strings at top of bib and at waist line which hold them comfortably in place. Aprons are available in bib or waist style in wide range of sizes.

Sleeves, coats, pants, overalls and jumper suits made of the same material can be supplied. Coats and smocks are made to fasten in back. All seams are double sewn. Made by **Safety Clothing & Equipment Co.**, 7014 Euclid Ave., Cleveland 3, O.

▲ Mention Item **NED-4014** when writing ▲

## AUTOMATIC CAM CLAMP




Easily attached to fixture, automatic cam clamp has handle which automatically advances or retracts clamp strap to or from work. This features leaves one hand of operator free for loading or unloading stock. Unit can be attached wherever required by drilling three holes, and it can be mounted in any position for right or left hand operation of handle. Clamp is made of alloy steel and cadmium plated. Strap, cam and pin are heat treated. Spherical washers with ground radii are used to compensate for irregularities in work. Clamp can be adapted easily for operation by air cylinder. Made by **West Point Mfg. Co.**, 19627 Merriman Ct., Farmington, Mich.

▲ Mention Item **NED-4015** when writing ▲


AMAZING NEW

*Electric* IMPACT *Tool*

- Applies and removes nuts
- Drills • Reams • Taps
- Drives and removes screws
- Drives and removes studs
- Extracts broken cap screws and studs
- Runs wire brushes
- Does hole saw work
- Drills brick and masonry
- Drives wood augers

*Uses standard attachments

Powered with special, reversible universal electric motor . . . plug into any wall socket . . . no torque reaction to the operator . . . takes the drudgery out of a multitude of maintenance and production jobs* . . . see our nearest branch office or distributor.

**Ingersoll-Rand**

11 BROADWAY, NEW YORK 4, N. Y. 22-8

▲ Mention Item NED-4016 when writing ▲

MANY INDUSTRIAL ROLL PROBLEMS are solved by using

"SHAF-TITE" ROLLS

Many patented constructions provide strongest possible shaft setting. Your choice of many different types and materials—wood, rubber, iron, brass, stainless steel, plastic, etc. Whatever your roll problem, put it up to

RODNEY HUNT

SEND FOR CATALOG TODAY!

RODNEY HUNT MACHINE CO.

73 Maple Street, Orange, Mass.

▲ Mention Item NED-4017 when writing ▲



PUNCH-LOK CLAMPS, TOOLS and FITTINGS

for Hose Clamping—General Maintenance Miscellaneous Repairs

PUNCH-LOK . . . a simple, easy, inexpensive solution to your clamping, mending and banding problems. Easily and quickly applied. The economical, safe way to handle general maintenance and repairs. Used and approved by industry everywhere. See your distributor or write us direct for complete information.

PUNCH-LOK COMPANY

Dept. S, 321 N. Justine St., Chicago 7, Ill.

▲ Mention Item NED-4018 when writing ▲



*Easy—Fast—Neat*

SOLDERLESS WIRE CONNECTIONS with SOLAR SCRU-ITS

U. S. Patent No. 1,933,555

Solar SCRU-ITS are used for permanent wire connections or "roughing in" without tape, solder, flame or tools. They form mechanically and electrically efficient joints and are easily removed when required. Speed up work, make wiring easier and better—with economical SCRU-IT Wire Connectors.

1. STRIP ENDS!
2. SCREW IT!
3. THAT'S IT with SCRU-ITS!

**101 USES:**

- Fixtures
- Conduit Boxes
- Fuse Boxes
- Motor Connections
- Light Switch Boxes
- Lighting Devices
- Radio Equipment
- Transformers
- Circuit Breakers
- Switch Controls

Underwriters Laboratories Inc. Approved

WRITE TODAY FOR DATA SHEET NO. W-7

SOLAR ELECTRIC CORPORATION

FACTORY and SALES OFFICES WARREN, PENNSYLVANIA

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DRAIN COCKS FOR EVERY PURPOSE

- Angle Bib Cocks
- Straight Bib Cocks
- Shut-off Cocks
- Compression Type Ends
- All Pipe Ends
- Male and Female Pipe Shut-offs

and many other special designs

• *Write for complete engineering data and descriptive literature.*

*Look Ahead with*

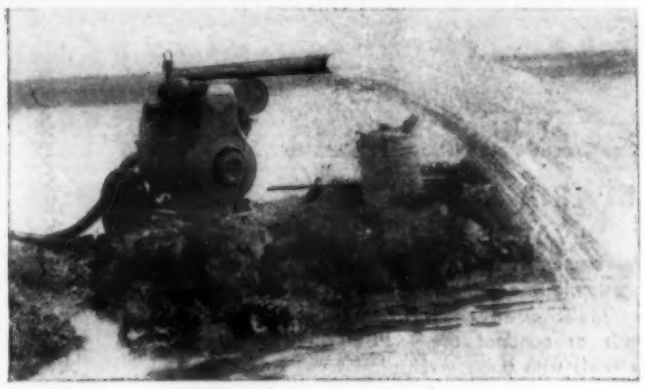
**Weatherhead**

THE WEATHERHEAD COMPANY • Cleveland 8, Ohio

Cleveland • New York • Detroit • Chicago
St. Louis • Atlanta • Denver • Los Angeles

▲ Mention Item NED-4020 when writing ▲





**A Steady Flow of WISCONSIN Engine Power Delivers a Steady Flow of Water**

The efficient design of this Rex Speed Prime Pump, made by Chain Belt Company, Milwaukee, PLUS the dependable and economical operation of the Model AEH single cylinder Wisconsin Air-Cooled Engine, results in a steady flow of water for any operating period the job may demand . . . at the lowest maintenance and power cost.

Wherever heavy-duty serviceability and trouble-free cooling are needed, be sure to specify Wisconsin AIR-COOLED Engines. Supplied in 4-cycle single cylinder and V-type 4 cylinder models in a complete range of sizes from 2 to 30 hp.

**WISCONSIN MOTOR Corporation**
MILWAUKEE 14, WISCONSIN
WORLD'S LARGEST BUILDERS OF HEAVY-DUTY AIR-COOLED ENGINES

▲ Mention Item NED-4021 when writing ▲



MOVE MATERIALS FASTER AT LOWER COST "THE Weld-Bilt" WAY

Let a WELD-BILT engineer show you ways to speed up your materials handling methods while reducing your operating costs.

PORTABLE ELEVATORS • HYDRAULIC LIFT TRUCKS • 2 & 4 WHEEL TRUCKS • TIERING MACHINES • BARREL TRUCKS & RACKS

*Leading American industries use and endorse WELD-BILT equipment. Write for illustrated folder.*

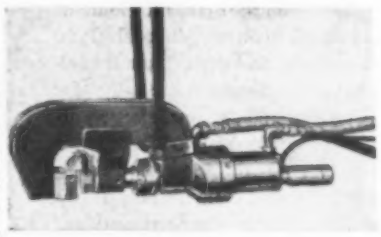
*The WELD-BILT Heavy-Duty Hydraulic Lift Truck — 6,000 to 10,000 lb. Capacities.*

*Portable Elevator*

**WEST BEND EQUIPMENT Corporation**
225 Water Street West Bend, Wisconsin
*Materials Handling Engineers*
Hydraulic Lift Trucks, Two and Four-Wheel Trucks, Tiering Machines, Skid Platforms, Barrel Trucks and Racks, Portable Elevators, and Special Equipment.

▲ Mention Item NED-4022 when writing ▲


## PORTABLE HYDRAULIC SHEAR



Production cutting of assembled parts which cannot be held in power saw or otherwise held securely can be accomplished by means of this portable hydraulic shear. Unit is available in capacities up to 100 tons. Shear illustrated clips off ends of 1 x ⅜-inch copper bars after electrical windings have been applied. It is capable of exerting 12½-ton shearing force.

Especially designed yokes can be supplied to permit work in relatively inaccessible places. Control is by means of pushbutton connected to hydraulic pressure generator. Release of pushbutton interrupts cutting cycle and returns blade to original position instantly, thus assuring safety to operator. Built-in guides are provided for squaring up with work for cutting. Made by Hannifin Corp., 1127 S. Kilbourn Ave., Chicago 24, Ill.

▲ Mention Item NED-4023 when writing ▲

## CIRCULATING PUMP

Provided with opposing inlet and outlet for standard 125-pound 2-inch pipe flanges, this model No. 1-B Rumaco circulating pump can be installed easily in pipe lines of various sizes by means of pipe reducers. It can be operated in any intermediate angle from vertical to horizontal position. Driving motor is directly connected to pump and is of totally enclosed type equipped with grease packed sealed ball bearings. Motor stator is dynamically balanced to insure vibrationless, quiet operation. Made by Ruthman Machinery Co., 1810 Reading Rd., Cincinnati 2, O.

▲ Mention Item NED-4024 when writing ▲

## MAGNETIC SEPARATOR

Self-energized and requiring no electric current to generate magnetic field, permanent magnet pulley is applicable to all operations requiring automatic separation of magnetic from nonmagnetic materials and removal of tramp iron from nonmagnetic materials conveyed on belts. Powered by large Alnico magnets, pulley can be used in locations where possible sparking precludes use of electrically powered separator. Moisture, heat or cold will not affect operating efficiency. It can be installed indoors, outdoors or underground. Made by Eriez Mfg. Co., 2569 E. Twelfth St., Erie, Pa.

▲ Mention Item NED-4025 when writing ▲

## ALUMINUM STEP LADDERS
### For Industrial Use

When you think of Aluminum, you think of *light weight*. Aluminum Ladders ARE light and easy to handle, but more than that, they are strong. Sturdy riveted construction enables them to stand up under the most severe punishment encountered in any type of industrial work.

Non-sparking and non-corrosive qualities combine with light weight and great strength for positive safety assurance and long ladder service. There is a size and style of Aluminum Ladder for every industrial use. Write for complete catalog.

**SPECIFICATIONS FOR TYPE 400**

| Model | Height to Platform | Slope | Width of Bottom | Weight |
|---|---|---|---|---|
| 400 | 4' | 18° | 25" | 20 lb. |
| 401 | 6' | 18° | 27-3/4" | 28 lb. |
| 402 | 8' | 18° | 30-1/4" | 38 lb. |
| 403 | 9' | 18° | 31-3/4" | 44 lb. |
| 404 | 10' | 18° | 33-1/4" | 48 lb. |
| 405 | 11' | 18° | 34-3/4" | 52 lb. |
| 406 | 12' | 18° | 36-1/4" | 56 lb. |

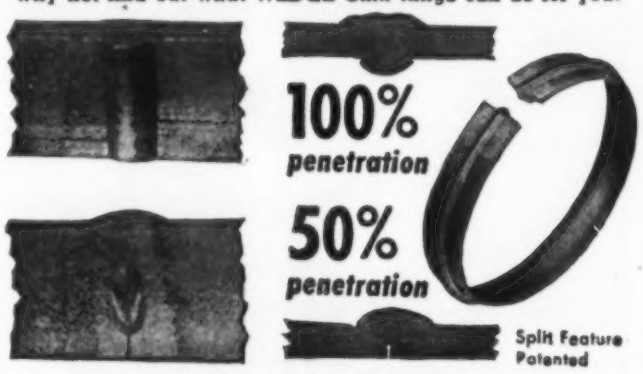
*"Original Manufacturers of Aluminum Ladders"*

**Aluminum Ladder Company**
346 Carbis Street
Worthington, Pa.

▲ Mention Item NED-4026 when writing ▲


If you weld pipe, tube or parts
*Why not find out what* WEDGE *Split* CHILL RINGS *— can Save you?*

Here is a new development that facilitates the welding of pipe, tube or parts. The use of WEDGE Chill Rings with the patented SPLIT Feature not only reduces time but also assures a STRONGER joint. They REINFORCE the joints thereby adding strength. They reduce labor cost and speed production. This new method is saving money—why not find out what WEDGE Chill Rings can do for you?




*Write for further information.*

**WEDGE PROTECTORS, INC.**
3973 Jennings Road Cleveland 9, Ohio

*Use* WEDGE Chill Rings-Thread Protectors

▲ Mention Item NED-4027 when writing ▲



UNITED STATES ELECTRICAL TOOLS COMPETE IN PRICE and EXCEL IN PERFORMANCE

WHETHER YOU install just one US tool or set up a battery—as many industrial plants often do—they fit into your production line just as perfectly as if designed by your own plant layout engineers.

**VERTICAL SPINDLE GRINDERS**

Angle plate mounting with screw feed, either vertical or horizontal, if desired.

Also constructed for heavy thrust grinding with spindle in horizontal position. For use on boring mill, lathe, planer, milling machine etc., they may be mounted at any angle, horizontal to vertical. Motors are 40-degree centigrade ratings, momentary overload capacity more than 100%. Heavy duty ball bearings support the chrome manganese spindle. Bronze bearings can be furnished for 5% additional charge.

CONTACT YOUR DISTRIBUTOR FOR DETAILS AND PRICES

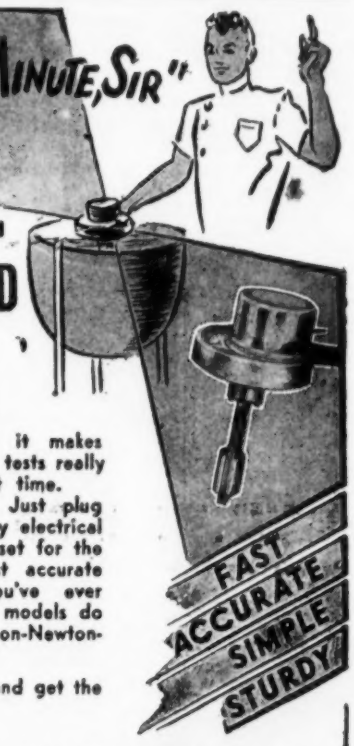
Drills, grinders, surfacers, polishers, sanders, tappers, saws, hole saws, valve seat grinders, valve refinishing shops, flexible shaft machines and other electrical tools.

The UNITED STATES ELECTRICAL TOOL Co.
CINCINNATI, OHIO

▲ Mention Item NED-4028 when writing ▲



"JUST HALF A MINUTE, SIR"



that's all it takes to test viscosity with a

**BROOKFIELD** *synchro-lectric* **VISCOMETER**

And what is more, it makes "point of processing" tests really practical for the first time. Completely portable. Just plug the Brookfield into any electrical outlet and you're all set for the fastest, cleanest, most accurate viscosity reading you've ever taken. Multiple-speed models do the same trick for non-Newtonian liquids.

Send for free folder and get the whole story.

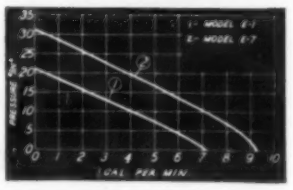
FAST ACCURATE SIMPLE STURDY

**BROOKFIELD ENGINEERING LABORATORIES**
Dept. N 2 Porter Street Stoughton, Mass.

▲ Mention Item NED-4029 when writing ▲

## ANOTHER EASTERN SMALL PUMP WITH OUTSTANDING PERFORMANCE CHARACTERISTICS

These new pumps, designated as E-1 and E-7, were designed by Eastern to provide a still further range of choice to those who require small pumps to operate over long periods. Both are centrifugal pumps, powered by General Electric Universal Motors. Model E-1 is 7" x 3⅜" x 3 9/16", 1/15 H. P., weighs 6 lbs. and has a Maximum Pressure of 20 lbs. P. S. I. with a Maximum Capacity of 7 G. P. M. Model E-7 is 9" x 4" x 4", 1/5 H. P., weighs 8 lbs. and has a Maximum Pressure of 30 lbs. P. S. I. and a Maximum Capacity of 9 G. P. M. Performance curves for both models are shown on the performance chart illustrated here. Both of these models are designed for long life. They are equipped with stuffing boxes and mechanical rotary seals which completely seal the pumps against leakage. While the curves shown are those for which production is now standard, it is readily possible to obtain other characteristics where quantity is involved.




**EASTERN INDUSTRIES, INC.**
47 Fox Street New Haven 6, Conn.

▲ Mention Item NED-4030 when writing ▲

## INDUSTRIAL SOUND SYSTEM

Containing all control elements in single console, model P-20 Executone industrial sound system is designed especially for factories, plants and large offices where combination voice paging and music broadcasting are required. Power output up to 50 watts is standard and increased power can be attained by addition of any number of 50-watt district amplifiers in remote departments. Any number of microphones with their associated controls located in separated department can be used.

User of any microphone can cut into line by pressing single button. All other microphone control stations are given notice automatically of line's use by busy signal lamp. Any music program in progress is cut off automatically for duration of paging message. Other features include newly designed type P-12 amplifier with individualized bass and treble tone control; constant voltage circuit which maintains equal volume regardless of number of speakers in system which are turned "on" or "off"; automatic plate voltage control which disconnects plate voltage during idle periods and reduces filament voltage by 20 per cent during use; intermix automatic record changer for any arrangement of 10 and 12-inch records; and monitor speaker with four-step volume control. Unit is housed in mahogany veneer cabinet that measures 26¼ x 17⅛ x 40⅛ inches. Made by **Executone, Inc.,** Dept. C., 415 Lexington Ave., New York 17, N. Y.

▲ Mention Item NED-4033 when writing ▲

## NOW—a Sprinkler with a PLUS VALUE!

8 narrow jet openings force water against baffle to atomize spray.

SILVER MIST TYPE

**BALL BEARING PROPELLER HEAD**

**ATOMIZED SPRAY DISTRIBUTION**

The Cannon "Silver Mist" is designed to save water and produce extraordinary results in horticultural growth in any type location. It is not just another sprinkler; it's modern, efficient, streamlined.

**FEATURES:** (1) Hard diecast aluminum head. Stainless steel races. Zinc base and riser. (2) Precision built for long life. (3) No parts to rust. (4) Standard hose coupling nut for easy connection. Anchor spike standard. Sled attachment extra.

For further information, write Dept. G-113, or if your dealer does not carry this sprinkler, send $3.75 in check or money order for a sample.

**CANNON ELECTRIC DEVELOPMENT COMPANY**
3209 Humboldt Street, Los Angeles 31, Calif.
Canada & British Empire • Cannon Electric Co., Ltd., Toronto, Ontario
World Export Agents (excepting British Empire) Frazar & Hansen, 301 Clay Street, San Francisco 11, California

▲ Mention Item NED-4036 when writing ▲

## DESIGNERS AND ENGINEERS! —Consider the Money Saving DESIGN POSSIBILITIES of

### SUPERIOR WELDRAWN* SMALL METAL TUBING (Maximum ⅝" OD)

**Product Improvement and Production Economy...are possibilities worth considering in the design stages.**

Superior engineers developed the means of producing welded tubing in most metals that can be cold drawn. From coils of bright annealed, cold rolled strip we form and weld tubing which, after adequate cold drawing, will meet practically all demands as to tolerance, tensile strength and finish. Add to these LOW COST and you have the most convincing arguments for the consideration of WELDRAWN for your tubing requirements.

The Engineering Staff of Superior will welcome your inquiries and the privilege of working with you. Write for Bulletin 32 today.

*Registered U. S. Trademark

See our CATALOG in SWEET'S FILE

THE BIGGER NAME IN SMALL TUBING Superior

SUPERIOR TUBE COMPANY
2018 Germantown Ave.
Norristown, Pennsylvania

For Superior tubing on the West Coast, call PACIFIC TUBE COMPANY, 5710 Smithway St., Los Angeles 22, Cal. ANgeles 2-2151

▲ Mention Item NED-4031 when writing ▲

## BELT SANDING MACHINE

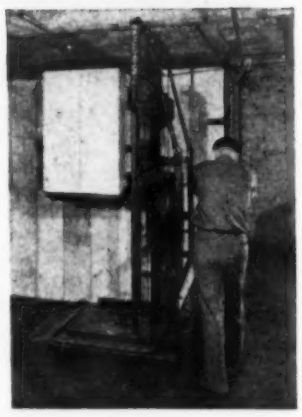
Designed for wood, metal and plastic sanding operations, this B-3 sanding machine can be operated with one 6-inch belt or with two 3-inch belts for roughing and finishing work. In addition to vertical position shown in illustration, column and belt can tilt back to any angle while table remains in horizontal position. Machine can be furnished in either bench or floor model. It is driven directly by ¾-horsepower single or three-phase electric motor. Sanding belt pulleys are rubber faced and measure 3 and 4 inches in diameter. They can be used for spindle sanding operations on curved pieces with radii of 1½ inches or larger.

To supplement curved piece, vertical, angle and horizontal sanding, miter gage can be supplied for worktable sanding of compound angles. Machine can be turned 90 degrees when in horizontal position and worktable removed and replaced with parallel fence or cross belt fence so that long pieces can be pushed over top for edge sanding. Distributed by J. D. Wallace & Co., 145 S. California Ave., Chicago 12, Ill.

▲ Mention Item NED-4034 when writing ▲

## REVOLVATOR REG. U. S. PAT. OFF. PORTABLE ELEVATORS

### NEVER A SICK DAY!



REVOLVATORS are not temperamental. They are strong and simple in construction—will not break down under heavy loads or constant use. Pile materials with these mechanical men, and furnish additional protection to your live men from rupture, strain, and over-fatigue. REVOLVATORS save time and money too.

Electric models for heavy, continuous work: inexpensive, light hand machines for occasional use or where electric current is not available. Lift any practical size and weight to any practical height.

Send for illustrated bulletins.

**RED GIANT LIFTRUCKS work well with REVOLVATORS. They are safe, durable, economical.**

**REVOLVATOR CO.**
DESIGNERS AND MANUFACTURERS OF MATERIAL HANDLING EQUIPMENT
8732 Tonnelle Ave., North Bergen, N. J. Since 1904

▲ Mention Item NED-4037 when writing ▲

## Engineered FOR ACTION!

### NEW ROCKWOOD LIGHTweight TRIPLE-ACTION WaterFOG NOZZLE

Half the weight

MADE OF SPECIAL ALUMINUM ALLOY

NEW TYPE **SG-48**

The New LIGHTweight Rockwood Type SG-48 triple-action WaterFOG Nozzle is now available to municipal fire departments and industrial plants. This new nozzle is an improvement over the Rockwood WaterFOG Nozzle that was used with spectacular success by the armed forces during the war.

Half the weight of the former type SG-40 Nozzle, the new LIGHTweight type SG-48 WaterFOG Nozzle will extinguish fires in both ordinary combustibles and flammable liquids faster and with less water.

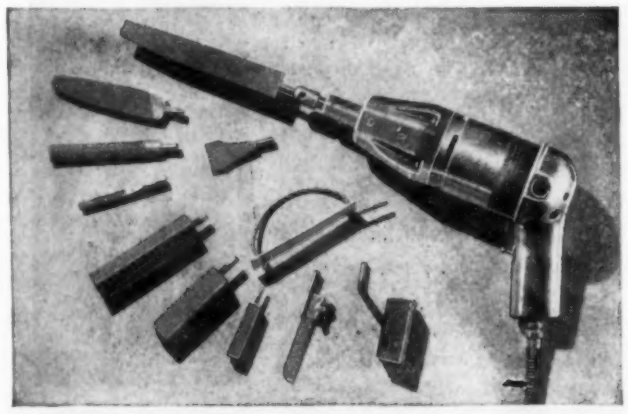
*Write for descriptive literature.*

ROCKWOOD SPRINKLER COMPANY
44 Harlow St., Worcester 5, Mass.

*Specialists in Fire Protection Engineering, Equipment and Installation Since 1907*

▲ Mention Item NED-4032 when writing ▲

## H&H All-in-One Self-Powered UNIVERSAL ELECTRIC TOOL

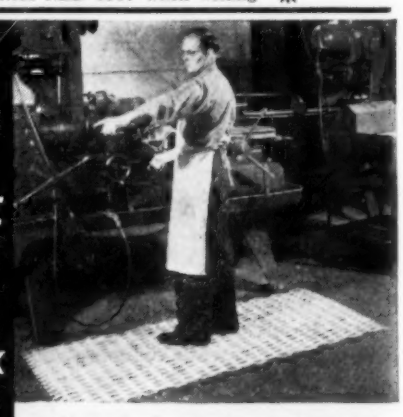


"VERSATILITY" is the word for "H&H TOOL". Here in one compact, 5-pound tool is an answer to production finishing problems in most metals, plastics, wood. Ideal for scores of close jobs on dies, aircraft, furniture, in burring, polishing, honing, filing, sanding, scraping, sawing and other operations. 1000 "back and forth" strokes per minute eliminate much tedious hand work—permitting faster, yet more accurate material removal. H&H Tool is precision built, rugged. It's engineered for production, not a "home workshop" toy. Complete graded assortment of files, hones, sand strips, scrapers and saw holder in stock. *Send for catalog showing tools, accessories and varied uses.*

**H & H RESEARCH CO.**
6323 Horatio St. • Detroit 10, Mich.

▲ Mention Item NED-4035 when writing ▲

## REDUCE FATIGUE and PROMOTE SAFETY WITH AMERIFLEX Hardwood Link MATTING



Links are woven on galvanized steel springwire framework. Lies flat. Follows contour of the floor. Beveled edges. Can be rolled or folded.

— ALSO —

AMERICAN COUNTER-TRED MATTING
TUF-TRED TIRE FABRIC MATTING
NEO-CORD OIL AND GREASE RESISTANT COUNTER-TRED MATTING
EZY-RUG RUBBER LINK MATTING
PERFORATED CORRUGATED MATTING

**WANTED: Distributors and direct factory representatives**

For prices and folder, "A Mat for Every Purpose", write

**AMERICAN MAT CORPORATION**
"America's Largest Matting Specialists"
1733 Adams St., TOLEDO 2, OHIO

▲ Mention Item NED-4038 when writing ▲

## Write for your copy of RBM

**BULLETIN 200 on automotive electrical control devices for..**

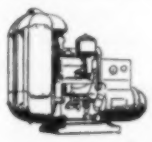
Passenger Cars

Trucks and Busses

Battery Chargers

Distribution limited to equipment manufacturers and design engineers. Request your FREE copy on company letterhead. Address Dept. G-7

Industrial Electric Trucks


Gas Engine Auxiliaries

**R-B-M DIVISION, ESSEX WIRE CORPORATION**
Logansport, Indiana

▲ Mention Item NED-4039 when writing ▲



**THE ANSWER To Many LIFTING Problems**

**LYON-Raymond PORTABLE HYDRAULIC ELEVATING TABLE**

Worried about costs? Speed? Safety? Damage? — and other factors in handling materials? Then look into these many jobs this handy Lyon-Raymond Elevating Table is designed to do.

**HERE-ARE JUST 12 OF ITS USES:**

1. Die handling
2. Sheet feeding
3. Adjustable section in conveyor system
4. Work table
5. Assembly bench
6. Positioning work to machine
7. Support for overhanging work
8. Adjustable test bench
9. Transfer table
10. Positioning parts for attachment
11. Welding positioner
12. Loading and unloading

*We have prepared an illustrated bulletin full of suggestions that methods engineers will find most helpful. It's free! Write for your copy today!*

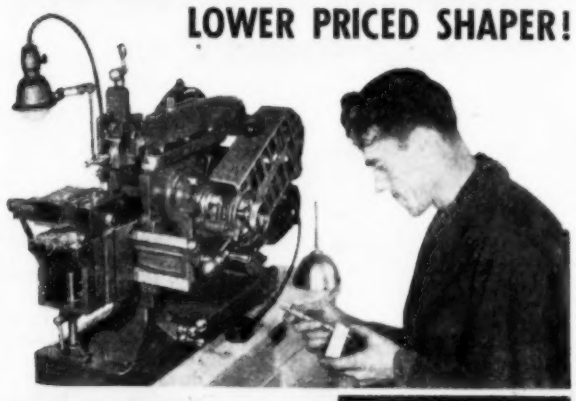
**LYON-Raymond Corporation**
606 Madison St., Greene, N. Y.

▲ Mention Item NED-4040 when writing ▲



**FOR 7" STROKE OR LESS...**

**You Can't Buy a MORE ACCURATE LOWER PRICED SHAPER!**



If it's precision you want—if it's economy of operation, versatility in performance, the perfect shaper for you is the Ammco. No big machine on the market surpasses it in accuracy, yet its operating expense is remarkably low. Compact in design for plant or home use, low in price, the Ammco 7" Shaper is ideal for all work of 7" stroke or less. Why purchase a big, expensive machine when the Ammco does the accurate job you want at less cost? Bench or portable cabinet models. Write *today* for literature and prices. Address Dept. NE-77.

**THE AMMCO SHAPER** *Saves on:*

1. Time
2. Labor
3. Floor Space
4. Electricity
5. Set-up Expense

**AMMCO TOOLS, INC.**
COMMONWEALTH AVENUE — AMMCO — NORTH CHICAGO ILLINOIS

***SKILL IS BUILT INTO EVERY AMMCO PRODUCT!***

▲ Mention Item NED-4041 when writing ▲


## AUTOMATIC BRAZING UNIT

Developed for silver soldering refrigerator or condenser coils, this automatic brazing unit has sharp flame type burners which are fully adjustable and assure uniformity in heating numerous return bends. Timing arrangement calibrated from 1 second to 10 minutes in intervals of 1 second controls operation of burners and also operates solenoid valve which produces maximum heating flame during brazing or silver soldering cycle.

Each flame ribbon burner is 12 inches in length and is of milled bar type. Screwlift jack mechanism permits vertical height changes of 12 inches and lateral motion between burners of 4½ to 5 inches. Unit shown in illustration will braze 24 return bends at 1175 F in approximately 1 minute. Actual silver soldering time will depend directly on size of return bends and type of fit between bends and tubes. Made by **American Gas Furnace Co.**, Elizabeth B., N. J.

▲ Mention Item NED-4042 when writing ▲

## SPEED & FEED SELECTOR

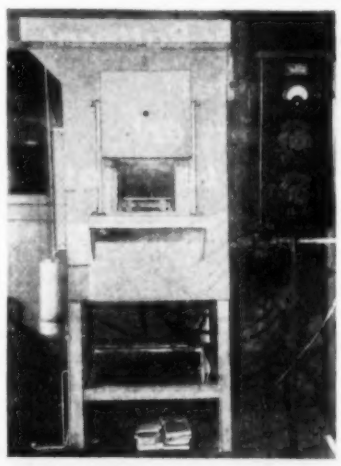
Proper speeds and feeds for all common machining operations on eight types of Republic Enduro stainless steel are provided by this circular Cutting Speed and Feed selector. Data on form cutting, milling, drilling and other operations usually performed on automatic machines are included. Selector also converts surface cutting speeds to spindle speeds for stock from 0.1 to 8 inches in diameter. Offered by **Republic Steel Corp.**, Republic Bldg., Cleveland 1, O.

▲ Mention Item NED-4043 when writing ▲

## CORRECTION

In the description of the Ladish line of seamless welding fittings (*Item NED-2807, May '47*) it was erronously stated "Line of forged steel fittings and flanges includes 90 and 45-degree elbows, 180-degree return bends, straight and reducing tees, concentric and eccentric reducers, caps, lap joint stub ends, saddles, shaped nipples, crosses and tees in diameters up to 30 inches." Actually it is the line of seamless welding fittings which includes these items. It was further stated in error "Center section and crotch of each seamless fitting is reinforced and metal tapers off to nominal pipe sizes at the ends." This feature applies only to the Ladish T which is but one item in the line. Fittings made by **Ladish Co.**, 5400 S. Packard Ave., Cudahy, Wis.

▲ Mention Item NED-4044 when writing ▲



Model FG-1200 set up with auto transformer

**36 INPUT STEPS** *under control* with

**PERECO Forge-Type ELECTRIC FURNACES**

**PERECO makes other STANDARD and SPECIAL FURNACES for any temperature up to 2700° F.**

In forging, heat-treating, etc., Pereco Model FG Electric Furnaces, with Multi-Tap Auto Transformers, offer controlled heat up to 2700° F. in *continuous* use. With 36 possible input steps, the operator can vary the range of high and low heats with ease and accuracy. The FG-1200 shown is only one of many standard sizes included in the Pereco FG series. Constructed with all-welded steel case; balanced insulation; positive-seal door; long-life Globar heating elements; ample-size working chamber; and other top features. Flame curtain and atmosphere attachments available. Write for details on *all* Pereco Electric Furnaces.

**PERENY EQUIPMENT CO., Dept. G**
893 Chambers Rd., Columbus 8, Ohio

▲ Mention Item NED-4045 when writing ▲



**"Jack, my boy, you're promoted..."**

*"You've earned it by suggesting our changing over to C7000 SPEED NUTS"*

"Frankly, Jack, I didn't believe we could speed up our production any more. But when I saw those assembly lines moving about 30% faster, I knew you'd had some smart idea.

"Another thing, I understand these SPEED NUTS really stop vibration loosening and that they weigh less than a fourth as much as a threaded nut. Is that correct?"

"Yes, sir, that's correct. And what's more, these C7000 SPEED NUTS cost less than ordinary threaded nuts plus lock washers. We had to cut costs somewhere, and SPEED NUTS really did the trick!"

*Your box of free samples in all ten sizes is waiting for you. Why not dictate that letter for it NOW?*

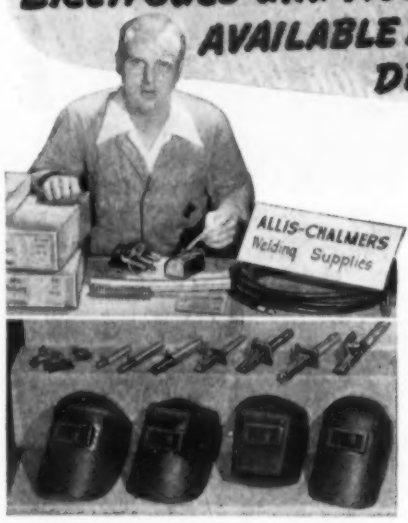
**TINNERMAN PRODUCTS, INC.**
2044 FULTON RD., CLEVELAND 13, O.

**Speed Nuts** — MORE THAN 5000 SHAPES AND SIZES — FASTEST THING IN FASTENINGS

▲ Mention Item NED-4046 when writing ▲



***Allis-Chalmers welding Electrodes and Accessories AVAILABLE AT YOUR DEALER!***




Cable
Cable Connectors
Clamps
Electrode Holders
Helmets
Receptacles

MAKE YOUR local Allis-Chalmers dealer your welding headquarters. He carries the *complete* Allis-Chalmers line. Included are electrodes of production-proved mild steel, alloy steel, stainless steel, cast iron, and hard surfacing. Also a line of quality accessories in many sizes, types and styles. Call your Allis-Chalmers dealer today. He's ready to serve your requirements.

**ALLIS CHALMERS** MILWAUKEE 1, WISCONSIN

A 2266

▲ Mention Item NED-4047 when writing ▲

**CAM CUTTING SIMPLIFIED FOR JOBS WHERE PRESSURES ARE LIGHT**

Cams for B & S screw machines can be completed in a fraction of the usual time if you use Synthane cam blanks. Use these blanks today; remember them for the future.

Synthane blanks are hard and dense, yet easy to machine. Delivered with pin hole drilled, center hole bored, and layout lines clearly printed on blank. Often good for runs of millions of pieces when pressures are light.

Write today for complete Synthane catalog.

**SYNTHANE**

TECHNICAL PLASTICS
SHEETS • RODS
TUBES • FABRICATED
PARTS • MOLDED-
LAMINATED • MOLDED-
MACERATED

SYNTHANE CORPORATION,
Northeast River Road, Oaks, Penna.
Please send me a copy of the complete Synthane Plastics Catalog.
*Name*_____
*Title*_____
*Company Name*_____
*Address*_____
*City*_____ *State*_____

▲ Mention Item NED-4048 when writing ▲

**PANOCO** *Die-Cut*
**MASKING TAPE**

CUT TO YOUR OWN SPECIFICATIONS
ANY SHAPE • YOUR DIMENSIONS

*Save* **COSTLY PRODUCTION TIME**
**with DIE-CUT Tape**

Eliminate Time Wasted In Cutting Tape To Your Specific Shapes

ELIMINATES REWORK AND TOUCH-UP TIME

**Protect surfaces in spraying, plating, buffing and polishing operations, this modern, easy way. Speed work preparation.**

**RESISTS HIGH TEMPERATURES**

**PANOCO MASKING TAPE**
DIVISION OF PAPER NOV. MFG. CO.
505 CARROLL STREET, BROOKLYN 15, N. Y.

▲ Mention Item NED-4049 when writing ▲



*You know how tight with APCO TENSION DRIVER*

$5.95

● HERE'S THE DRIVER you've been waiting for . . . a rugged, fool-proof, ratchet-free torque tool that'll save you many an hour on scores of different assembly jobs. Broken screw days are over when you use APCO.

Just check the safe load on the free chart supplied with every driver and go to work. Four big, easy-to-read brass dials let you see the exact torque from *any* position.

Every driver supplied with three fine tool steel heads to adapt the driver instantly to slotted, Phillips or ¼" socket drives.

Send for descriptive circular today . . . or better still, order one and see for yourself now the easy way this *new* APCO TENSION DRIVER saves you time, material and accidents.

*No. B-25. O-25 inch pound. Length 12". Weight ¾-lb. Non-slip, non-chip, non-conductor handle.*

**APCO MOSSBERG CO.**
**Attleboro, Mass., U. S. A.**

▲ Mention Item NED-4050 when writing ▲



NEW STAINLESS STEEL COMBUSTION CHAMBER INTRODUCED BY DRAVO

PITTSBURGH, PA.: Stainless steel, scientific development which aided the advancement of jet propulsion and turbo-supercharging is now being utilized to provide more efficient and durable combustion chambers in Dravo Counterflo Oil and Gas Fired Heaters. Effective immediately, industrial and commercial installations of Dravo Heaters

AVAILABLE IMMEDIATELY

In fabricating the combustion chamber of Dravo Heaters from stainless steel, many extra years of highly efficient operation have been added to the life of a direct fired heater that already has proved its worth in thousands of industrial and commercial installations.

Other advantages include: **elimination of refractory with its troublesome maintenance; reduction of overall size and weight of heaters; greater flexibility of application.** For descriptive bulletin EM-516 write Heating Section.

**DRAVO CORPORATION**
Pittsburgh • Philadelphia • Cleveland • New York • Detroit
Washington • Atlanta • Wilmington

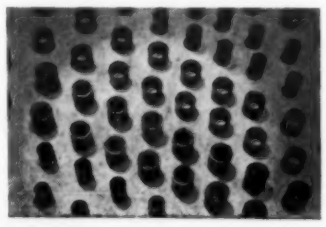
▲ Mention Item NED-4051 when writing ▲


## METAL TAGGING OUTFIT

Permanent and efficient method of identifying billets during storage prior to rolling operation is provided by this metal tagging and tag embossing outfit. It also has numerous warehousing and industrial applications wherever ferrous, nonferrous or wooden products require permanent identification. In operation, interchangeable embossing type is set up in embossing unit. After embossing with light hammer blow, tag is placed in fixture which bends it to fit over hammer face and into hammer clamps. At same time special heat treated nail is inserted through tag. Hammer used with outfit is regular 3-pound safety engineer's tool. By swinging hammer in customary manner, hardened nail is driven into steel billet, permanently attaching tag for future identification. Tags will not wash or rub off regardless of weather or operating conditions. Made by **M. E. Cunningham Co.**, 151 Carson St., Pittsburgh 19, Pa.

▲ Mention Item NED-4052 when writing ▲

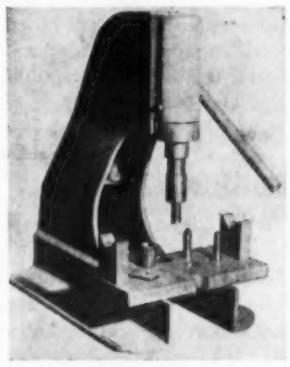
## POWDERED METAL BEARINGS



Line of standard self-lubricating cylindrical bearings designed for machinery, motor, automotive, aircraft and home appliance applications is made from powdered metals and has self-contained oil supply. Featured also are copper-tin-lead composition bearings that counteract shaft irregularities and eliminate damaging wear during initial operating period. In additon to standard bearing sizes, self-lubricating bronze is available as bar and plate stock for emergency use. Made by **Wel-Met Co.**, 110 Gougler Ave., Kent, O.

▲ Mention Item NED-4053 when writing ▲

## HYDRAULIC ARBOR PRESS



Capacity of this Ruger hydraulic arbor press is 10 tons. Unit is portable and can be quickly set up for any job. Stroke of ram is 6⅝ inches and distance from ram to work can be adjusted by rotating lower part of ram to right or left. Six-inch adjustment is provided. Short easy strokes of pump lever will build working pressure to full capacity quickly. V-blocks, table with cutouts properly spaced and with holes for positioning V-blocks, and other attachments are standard equipment.

Overall weight of unit is approximately 100 pounds. Safety factor is generous and pressure release valve is conveniently located alongside pump operating lever. Throat height is 11 inches and throat depth is 8¼ inches. Made by **Ruger Equipment Co.**, 408 Leader Bldg., Cleveland 14, O.

▲ Mention Item NED-4054 when writing ▲


*Produces Perfect Spray Patterns Faster! Easier! At Less Cost!*

**Black Arrow HOLLOW AIR Spray Gun**

Production painters call Black Arrow's HOLLOW AIR Spray Gun the most sensational development in the spray gun field. That's because of its patented HOLLOW AIR Atomizer Head which, in terms of spray results, gives you five big advantages.

1. The widest, wettest, most uniformly distributed spray pattern you've ever seen.
2. Complete atomization of paint over the entire pattern.
3. No spotting at edges, no runs, sagging or orange peel.
4. More economical spray because HOLLOW AIR usually requires less pressure.
5. Much softer spray because HOLLOW AIR blends paint and air perfectly.

See your jobber! For catalog, write

*Specifications of* **HOLLOW AIR** *Spray Gun*

A heavy duty, high production gun. Handles all materials used in spray finishing. Especially advantageous when using synthetics. HOLLOW AIR available for either siphon or pressure feed. Forged aluminum alloy one piece body. Stainless steel nozzle, needle and cap assembly. Replaceable Thread Baffle Ring assembly. Weight 24½ oz.

BLACK

**The Black Manufacturing Company**
1428 W. BALTIMORE ST. • BALTIMORE 23, MD.

*Beyond Compare—HOLLOW AIR*

▲ Mention Item NED-4055 when writing ▲



**Space enough for an unsealed bearing is space enough for FAFNIR Plya-Seal**

**Tightest seal ever devised** . . . synthetic rubber washer and spring steel split retaining ring. Self adjusting, non-capillary.

**Almost indestructible** . . . unaffected by extreme heat or cold and most ball bearing contaminants. Plya-Seals in service 5 years still good as new.

**Removable with just a penknife** and replaceable just as easily.

**Fits anywhere a standard unsealed ball bearing fits.** Ask your Fafnir representative to show PLYA-SEAL or write for full information. The Fafnir Bearing Company, New Britain, Conn.

**FAFNIR** BALL BEARINGS

MOST COMPLETE LINE IN AMERICA

▲ Mention Item NED-4056 when writing ▲



**COOL PLANT INTERIORS AS MUCH AS 15° THIS SUMMER!**

**GILSALUME**—the new *insulating* aluminum roof paint—forms a metallic shield that reflects 70% of the sun's destructive rays. Actually reduces indoor summer temperatures as much as 15°! Weatherproofs roofs the year around. GILSALUME keeps roofs cool, and *cool roofs wear longer.* Costs only *1c per square foot!* Easy to apply with brush or spray. For complete literature and name of nearest dealer, write to **United Gilsonite Laboratories, Dept. N, Scranton 1, Pa.**

GILSALUME ALUMINUM ROOF PAINT

**PROTECTS BECAUSE IT REFLECTS**

▲ Mention Item NED-4057 when writing ▲



**—NEW—**

**Plastic-Coated Drawing Board Cover Paper Keeps Tracings Clean**

■ Soil and smudges wash right off this remarkable Bruning plastic-coated paper! Dust and dirt do not readily adhere to its smooth surface. Green in color to minimize glare and reflection, this paper does not curl or wrinkle — keeps its fresh, smart appearance for a long time. Paper is heavy enough to cover pin holes and uneven surfaces — yet is flexible enough to bend around edges of board. Its smooth, hard surface reduces scoring "ghosts" on original drawings to a minimum, resulting in clean-cut tracings. Non-absorbent surface resists marring by regular drafting tapes. A favorite with draftsmen and artists, Bruning green drafting board cover paper resists weak acids and all solvents — a quality which fits it for numerous other uses. Available in rolls 36" and 42" wide. For full information, write Charles Bruning Company, Inc., 4730-44 Montrose Ave., Chicago, Illinois.

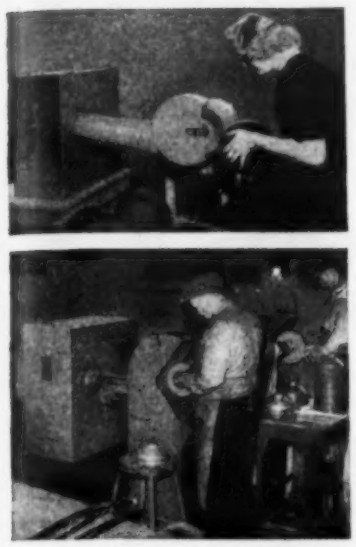
**BRUNING** *SINCE 1897*

▲ Mention Item NED-4058 when writing ▲

# STOP DUSTS

WITH LOW COST INDIVIDUAL **DUSTKOPS**

All types of dusts are stopped by Dustkops: Dusts from Grinders, Polishers, Buffers, Sanders (belt and disc), Abrasive Cut-offs; Woodworking Equipment; Fumes from Degreasers; Vapor from Screw Machines and Thread Grinders all can be stopped with least cost by DUSTKOPS.



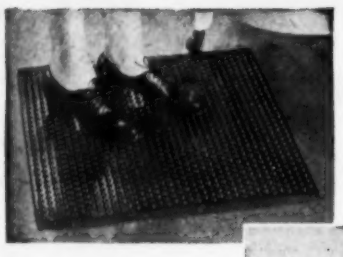
*Send for 16-page catalog and recommendations for your dust problem.*

**AGET-DETROIT COMPANY**
201 Main at Washington
ANN ARBOR, MICHIGAN

▲ Mention Item NED-4059 when writing ▲

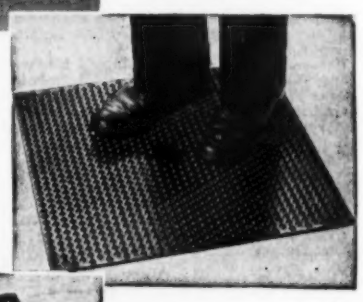


# THE MAGIC MAT



**SAVES FEET** by relieving tired nerves.

**EASES STRAIN** of standing long in one spot on hard unyielding floors.



**INCREASES** worker efficiency and morale.

**PROVIDES** extra measure of safety.

**EASY TO CLEAN**

Just bend mat back and dirt rolls out. Dirt cannot stick.

***EXCLUSIVE CUSHIONING ACTION*** provides maximum comfort and gets more production from workers.

Magic Mat is scientifically designed for persons standing on their feet for long periods of time in factory, office or home. It is self-cleaning because of the many scraping surfaces of the cones. There are no holes for dirt to slip through. It is non-skid because the cones are on both sides of the mat. It is reversible for long life. It has 50% more wearing surface. Magic Mat is made of black molded rubber 21¼" square and consists of over 2000 ¼" high rubber cones which cushion the feet. Shipping weight 6 lbs.

**A THOUSAND AND ONE USES!!**

Machines
Assembly benches
Work Tables
Processing Equipment
Office Equipment—bookkeeping, filing, etc.
Household laundry, ironing, dishwashing, etc.
Door mats—and many others

**Send $2.50 FOR SAMPLE DELIVERED OR ORDER A QUANTITY *Today!***

**SATISFACTION GUARANTEED—DEALERS INVITED**

**AVENUE MFG. & SALES CO.**
1837 MILWAUKEE AVE. CHICAGO 47, ILL.
PHONE ARMitage 8586

▲ Mention Item NED-4060 when writing ▲

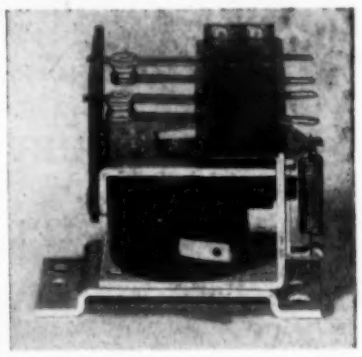

## SMALL ELECTRIC MOTOR

Designed for continuous duty, this split phase, ventilated open type Kasson electric motor develops 1/3-horsepower. It operates on 110-volt, 60-cycle alternating current at 1725 revolutions per minute. Ball bearings are permanently lubricated. Removable mounting plate is available and permits interchangeability on many types of machines. Shaft is double end. Pressed steel end housings assure accuracy, reduce weight to minimum and eliminate breakage.

All internal connections are copper brazed. Heavy Formvar insulated wire in windings is baked with synthetic type thermosetting varnish. Silver contact points are used on starting switch. Made by **Rotomotor Co.**, 263 Mott St., New York 12, N. Y.

▲ Mention Item NED-4061 when writing ▲

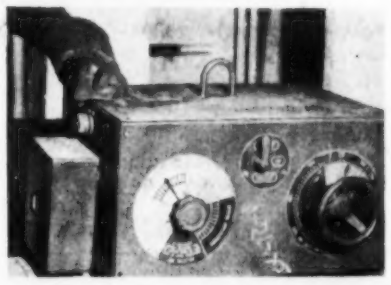
## MAGNETIC RELAY



Line of general purpose 98000 series magnetic relays includes 3-ampere contact types up to six-pole double throw for low voltage applications and 12-ampere relays for operation on 115-volt alternating current when incorporated as part of equipment. Relay illustrated is two-pole double throw type designed in accordance with Underwriters' Laboratories specifications for class C small electrical devices. It is available also in two-pole normally closed and two-pole double throw designs. Made by R-B-M Div., **Essex Wire Corp.**, Hanna St., Logansport, Ind.

▲ Mention Item NED-4062 when writing ▲

## ARC WELDING CONTROLS



Developed for use with all standard makes of direct current arc welding sets operating on ordinary electric power source, DV start-stop and timing control unit permits operator to start set by striking an arc and shuts machine off when job is done. Arc time meter measures welding time in minutes and provides data for production and quality control. Automatic shut-off control is adjustable to stop machine at any predetermined time after arc is broken. Made by **DV Welding Controls**, 3959 Piedmont Ave., Oakland 11, Calif.

▲ Mention Item NED-4063 when writing ▲


# Have you looked here?

**You may find the answer to your handling problems—free! This book is packed with ideas on how to stop waste effort and delay. How electric power can do your work, while your operators just push buttons. And how the P&H Zip-Lift combines these savings in a low-cost electric hoist easily adapted to hook, jib, or trolley. You'll be glad you sent for it—Bulletin H20-1.**

General Offices: 4537 West National Ave., Milwaukee 14, Wis.

**HARNISCHFEGER CORPORATION**
HOISTS • WELDING ELECTRODES • MOTORS • P&H • EXCAVATORS • ELECTRIC CRANES • ARC WELDERS

▲ Mention Item NED-4064 when writing ▲



# SOUTH BEND LATHES

*VERSATILE ACCURATE*

**WRITE FOR CATALOG 100-F**
Shows 9" to 16" lathes and attachments. Prompt delivery—factory time payment terms, if desired.

The versatility and accuracy of South Bend Precision Lathes speed-up toolroom and production work. With them, a wide variety of exacting work can be efficiently machined to precision tolerances with less effort. Prices start at $145.00. Average increase over pre-war price level is less than 15%.

**SOUTH BEND LATHE WORKS**
443 E. Madison St., South Bend 22, Ind.

BUILDING BETTER LATHES SINCE 1906

▲ Mention Item NED-4065 when writing ▲

*Resistance Welding*

**HAS REDUCED OVERALL COSTS**

*50%*

General Steel Wares, Toronto, Canada, uses Taylor-Winfield resistance welders (spot, flash-butt and seam) for enameled ware, galvanized ware, milk cans, refrigerators, stoves, garbage pails and many other products.

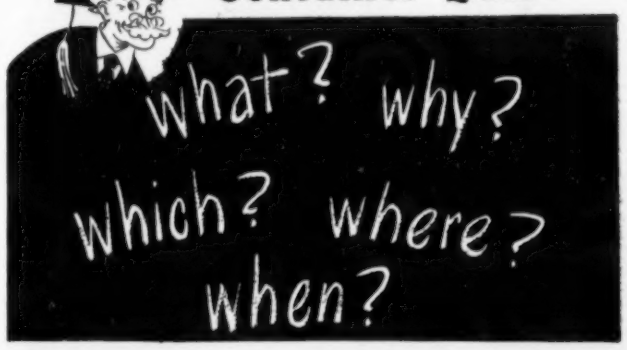
**THE TAYLOR-WINFIELD CORPORATION, WARREN, OHIO**

***Ask Taylor-Winfield for assistance in putting resistance welding (spot, projection, seam or flash-butt) to work for you.***

**TAYLOR-WINFIELD**
RESISTANCE WELDERS

▲ Mention Item NED-4066 when writing ▲

*Container Quiz*




• The answers to these 5 questions are of vital interest to all those concerned with the better packing of their products.

"*WHAT* container will provide better protection, will best ship our products?" We think that General Boxes will provide better and more economical protection for your products.

"*WHY?*" Because they're designed specifically to the product, as a "Part of the Product."

"*WHICH* type of container will do the most efficient job?" The answer to this important question is provided by our Engineering Service.

"*WHERE* is this service available?" For complete information just write our nearest office.

"*WHEN?*" . . . is best answered by your doing this right now.

*ENGINEERED SHIPPING CONTAINERS*

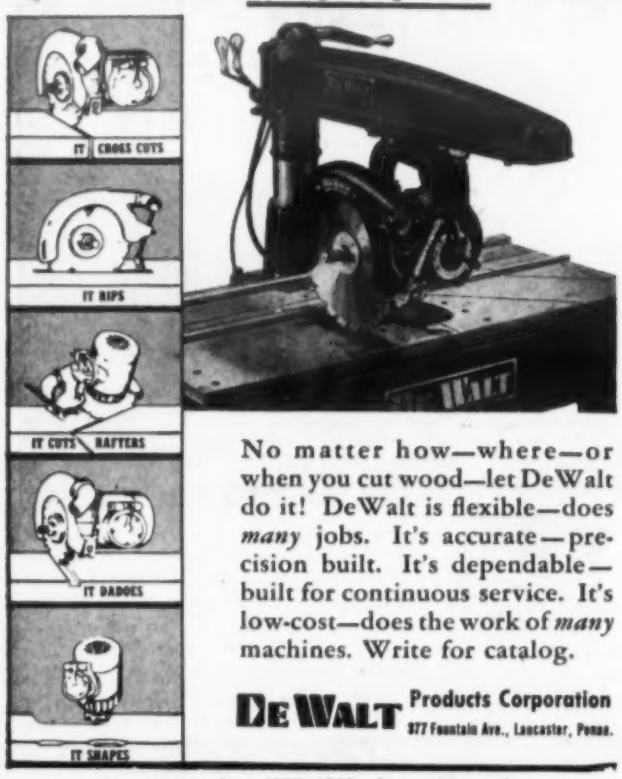
25 YEARS YOUNG 1922-1947

**GENERAL BOX COMPANY**
GENERAL OFFICES: Corner of Illinois & Dearborn Streets, Chicago 10, Illinois.
DISTRICT OFFICES AND PLANTS: Brooklyn, Cincinnati, Detroit, East St. Louis, Kansas City, Louisville, Milwaukee, New Orleans, Sheboygan, Natchez, Winchendon.
Continental Box Company, Inc.: Houston, Dallas.

*25 years experience in designing better containers for all industry*

▲ Mention Item NED-4067 when writing ▲

# PRESENTING THE NEW DeWALT all-purpose saw!




No matter how—where—or when you cut wood—let DeWalt do it! DeWalt is flexible—does *many* jobs. It's accurate—precision built. It's dependable—built for continuous service. It's low-cost—does the work of *many* machines. Write for catalog.

DeWALT Products Corporation
377 Fountain Ave., Lancaster, Penna.

▲ Mention Item NED-4068 when writing ▲

"Cut our shipping room costs $600 a year," claim users of Marsh Stencil Machines, Brushes, Inks! WPB, railroads, truckers recommend stenciling! Easy to use, legible, permanent. Three sizes to meet Gov't Spec., 1", 3/4", 1/2". For sample stencil, shippers' handbook and prices, pin this to business letterhead, with your name.

MARSH STENCIL MACHINE CO.
23 Marsh Building
Belleville, Ill., U. S. A.

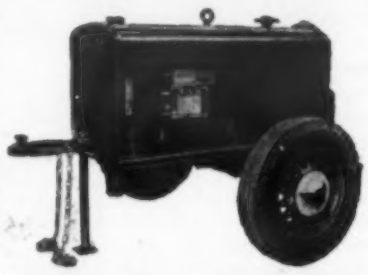
MARSH STENCIL MARKING

▲ Mention Item NED-4069 when writing ▲

▲ Mention Item NED-4070 when writing ▲


## PORTABLE WELDER

Powered by heavy duty, four-cylinder, air cooled 26.5-horsepower gasoline engine, model WN-200 portable welder is available as stationary or trailer unit for shop, yard and field service. Machine has NEMA rating of 200 amperes and has service range of from 30 to 260 amperes. Single control adjusts welding heat from minimum to maximum capacity. Arc response is automatic on all classes of work and with all types of electrodes. Visi-matic calibration plates enable operator to select instantly exact welding current for each of three classes of electrodes.



Rated 30 volts at 2900 revolutions per minute, generator is self-excited. Drive from gasoline engine to generator is through five-strand V-belt. Both models are securely mounted on all-welded frame of steel tubing and heavy angle iron. Skid model is suitable for carrying on trucks and large lifting eye is provided for hoisting. Trailer model is carried on pneumatic-tired running gear of standard track width. Gasoline engine is rear-mounted for convenient starting without need of unloading or unhitching before operation. Made by **Harnischfeger Corp.**, Welding Div., 4537 W. National Ave., Milwaukee 14, Wis.

▲ Mention Item NED-4071 when writing ▲

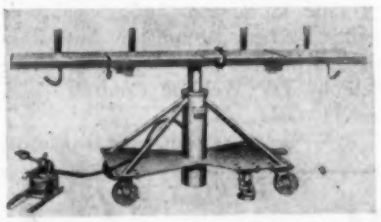
## MARKING MACHINE

Developed for precision marking on cylindrical or cone shaped tool feed dials, cylindrical sleeves, optical devices and similar parts, this model No. 203 marking machine is available as motor driven unit or as bench type hand operated device. Motor driven machine will mark parts up to approximately 6 inches in diameter with wide range of graduation numbering and any amount of small lettering. Spring cushion provides for marking of parts which have slight variation in diameter. Depth is controlled by knurled handwheel adjustment. Hand operated machine will mark graduations and numbers on small parts up to approximately 3 inches in diameter. Unit is recommended where limited production is to be handled. Made by **Jas. H. Matthews & Co.**, 3943 Forbes St., Pittsburgh 13, Pa.

▲ Mention Item NED-4072 when writing ▲

## PORTABLE HYDRAULIC TABLE

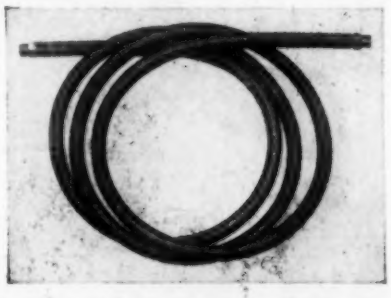
Designed to simplify feeding of strip stock or sheet material to shears, rolling mills and punch presses, this portable hydraulic elevating table will enable operator to keep stock at proper height so as to facilitate handling. Table top consists of one rigid section the same length as base and two removable extensions which will support long loads. Bundles of stock can be loaded on table by means of overhead hoists or fork lift trucks. Foot operated pumping unit, joined to central cylinder by flexible hose, can be placed wherever most convenient to operate or suspended from table top when equipment is to be moved. Made by **LYON-Raymond Corp.**, 3421 Madison St., Greene, N. Y.



▲ Mention Item NED-4073 when writing ▲

## HIGH FREQUENCY CONDUCTOR

Water cooled, this high frequency electric current conductor consists of brass, water-tight, convoluted inner core with outer braid current conductor, all enclosed by extruded high frequency flexible insulation. Conductor is particularly adaptable to high frequency heating equipment or to any other equipment where substantial amount of high frequency current is carried. Features include minimum current losses, flexibility which permits freedom of movement between components and chemical inertness and water resistance of insulation. Made by **Titeflex, Inc.**, 548 Frelinghuysen Ave., Newark 5, N. J.



▲ Mention Item NED-4074 when writing ▲


## STOP WOOD DECAY NOW

You can lose real money if rot or insects attack your wood structures. This unnecessary waste can be avoided by treating wood and lumber with Chapman "Penta" Preservative. The active ingredient, pentachlorphenol, gives maximum protection against rot, decay, termites and Lyctus beetles.

This is the ideal wood preservative for prolonging the service life of wood products, too. Chapman "Penta" Preservative is clean, odorless and easy to apply. The treated wood takes paint, varnish or stain with no trouble. Write us for details.

CHAPMAN

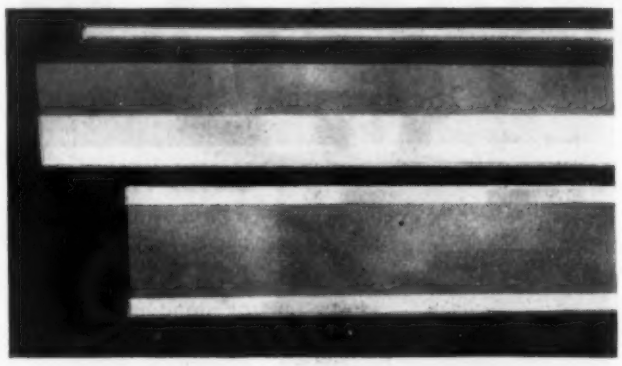
"PENTA" PRESERVATIVE CONTAINS PENTACHLORPHENOL, A PRODUCT OF THE DOW CHEMICAL COMPANY

CHAPMAN CHEMICAL COMPANY
333 NORTH MICHIGAN AVENUE, SUITE 532, CHICAGO 1, ILLINOIS

▲ Mention Item NED-4075 when writing ▲



"SURE, SILVER COSTS ARE HIGH—BUT GENERAL PLATE LAMINATED METALS CUT COSTS BY PUTTING SILVER ONLY WHERE YOU NEED IT!"



You can beat today's high silver costs and still get solid silver performance by using General Plate Laminated Metals in applications requiring silver.
Because General Plate Laminated Metals . . . sheet, wire and tube . . . are made by permanently bonding a thin layer of silver to a thicker layer of base metal, they give you solid silver performance where you need it. Thus you pay for a small quantity of silver plus the cost of inexpensive base metal . . . resulting in a large saving over solid silver. Remember, too, that the base metal adds strength, ease of fabrication and workability.
General Plate Laminated Metals have high corrosion resistance, better electrical conductivity, better spring properties, are easier to fabricate. Use them in such applications as chemical apparatus, electrical equipment, physical instruments, radio and electronic devices.
Write for complete information, today. Engineers are available for consultation; ask for their services.

GENERAL PLATE DIVISION
*of Metals and Controls Corporation*
ATTLEBORO, MASSACHUSETTS

▲ Mention Item NED-4076 when writing ▲



T-J HIGH SPEED CUTTERS

● Do your cutting in tough die steels—at *high speed*—with T-J Die Sinking Milling Cutters! Outstanding for sturdiness . . . ability to hold a sharp edge longer . . . and carry less breakage percentage. *More work between grinds!* Made from a standard, extremely high grade steel. Backed by 30 years of T-J experience. Write for catalog.

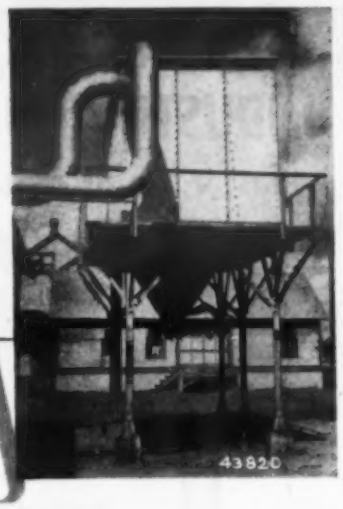
The Tomkins-Johnson Co., Jackson, Michigan.

FOR TOUGH JOBS . . . SPECIFY T-J
TOMKINS-JOHNSON
DIE SINKING MILLING CUTTERS

▲ Mention Item NED-4077 when writing ▲

# SLY DUST Control

Adopted as STANDARD By Many Firms




Typical Sly Dust Filters on a standard support with walkway, with dust pipes leading to the filter. All Sly Dust Filters are of weather-proof construction for out-of-door installation. Standardized construction for low cost.

The Sly Dust Filter actually filters the dust out of the air by passing it through a series of cloth bags ingeniously arranged in a compact space within the filter case. The cleaned air contains no visible dust.

Sly Dust Filters comply fully with the requirements of the laws and regulations of the various states. This equipment is *not* expensive.

ASK FOR BULLETIN 98 . . Tell us your problem so that we can write you fully!

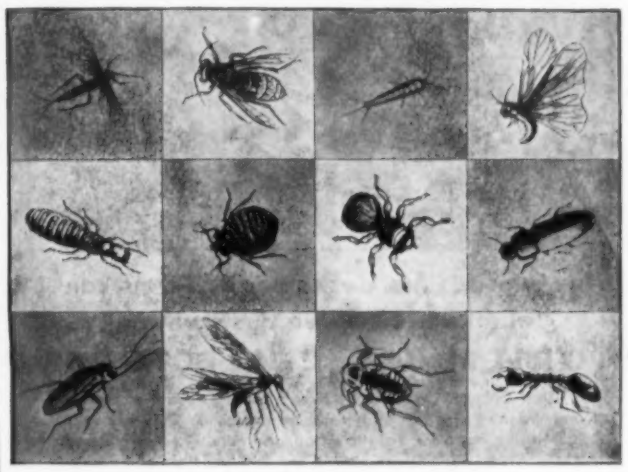
THE W. W. SLY MFG. CO.
4748 Train Ave., Cleveland 2, O.

INDUSTRIAL DUST CONTROL SLY

▲ Mention Item NED-4078 when writing ▲



# PICK the PESTS

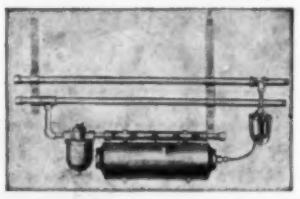


## . . . you'd like to give the "AIR" Forever!

Do your special insect pests crawl or fly? Thrive on Food or Fabric? Run rampant in a midget-sized cubicle or nest in the hard-to-reach places of a tremendous factory? Get rid of them with the West Atomizer —an effective scientific method of insect control. Designed to eliminate all pests *wholesale* with a fast "positive-kill."

A permanent installation which shortly pays for itself in time and labor saved (plus the tremendous advantage of complete coverage) the West Atomizer is perfected for efficient and effective use with compressed air. Just turn on the air valve and it *shoots out* a deadly fog of insecticide which reaches into the tiniest cracks and crevices. *Does its lethal magic as quickly in a mile-long plant as in a small store room.* Dispenses a "dry" mist so it won't wet floors, walls, or product if used as directed.

*With the West Atomizer, use Vaposector Fluid—one of West's complete line of effective insecticides, specially prepared to help lick your insect problem. Vaposector is a concentrated, odorless insecticide—and is safe to use. Why not consult one of over 475 trained West representatives at once?*



*Products That Promote Sanitation*

WEST Disinfecting Company

42-16 WEST STREET
LONG ISLAND CITY 1, N. Y.
★BRANCHES IN PRINCIPAL CITIES OF THE UNITED STATES AND CANADA

CLEANSING DISINFECTANTS • INSECTICIDES • KOTEX VENDING MACHINE PAPER TOWELS • AUTOMATIC DEODORIZING APPLIANCES • LIQUID SOAP

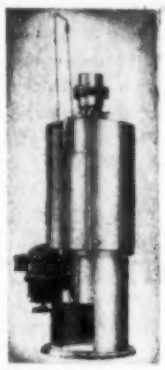
▲ Mention Item NED-4079 when writing ▲


## FLUORESCENT LIGHTING UNIT

Capable of being mounted directly on ceiling or suspended on stems, Holoflux fluorescent lighting fixtures are supplied with either two or three lamps and can be installed as single fixtures or ganged together in continuous lines. Units are equipped with curved type Controlens which collect light from lamp and bend it downward in intensive pattern. An appreciable amount of illumination is directed across ceiling to soften shadows and reduce contrast. Fixtures fully enclose fluorescent tubes and protect them against collection of dirt and dust. Made by **Holophane Co.**, 342 Madison Ave., New York 17, N. Y.

▲ Mention Item NED-4080 when writing ▲

## HIGH PRESSURE AUTOCLAVE



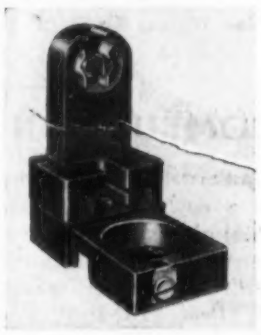
Having 5-gallon capacity, high pressure autoclave is designed for 15,000-pound per square inch working pressure and 650 F working temperature. Body is fabricated of chrome-nickel-molybdenum steel with ¼-inch thick 25-12 stainless steel liner pressed into place. Closures at each end of autoclave are fabricated of type 410 heat treated stainless steel.

Twenty-seven-kilowatt electric strip heaters are attached directly to outside of unit and are surrounded by welded steel insulating jacket arranged for air cooling. Agitator is driven from bottom. Top closure has 2-inch diameter safety head assembly which makes possible operation at any desired pressure by selection of proper blow-out disk. Blow out assembly is suitable for any disk bursting pressure of up to 25,000 pounds per square inch.

Autoclave has internal cooling coil and unit is equipped with thermocouple well, sampling line and inlet and outlet connections. Agitator shaft has outside oil cylinder which automatically equalizes autoclave pressure and oil pressure at packing lantern to assure proper lubrication of agitator shaft. Unit is mounted on welded steel insulated stand. Made by **Autoclave Engineers, Inc.**, 3747 W. Cortland Ave., Chicago 47, Ill.

▲ Mention Item NED-4081 when writing ▲

## FLUORESCENT LAMPHOLDERS



Line of Solar fluorescent lampholders and lampholder starter sockets is designed for use in original equipment and replacement. Lampholders are made of chipproof, shockproof Bakelite having high dielectric strength. One-piece construction eliminates possibility of fracture. Slots in lampholders make insertion and renewal of lamps easy. Combination unit will fit all standard fluorescent strips, troffers, luminaires and other types of equipment. They are available in black or ivory colors. Made by **Solar Electric Corp.**, Ensworth Rd., Warren, Pa.

▲ Mention Item NED-4082 when writing ▲


# Your Pick of EMERSON-ELECTRIC AIR CIRCULATORS in

✓ 2 BLADE SIZES
✓ 4 MOUNTINGS

Pick the spot where air must be moved and you'll find an Emerson-Electric Air Circulator to do the job. Four types of mountings — ceiling, wall, counter or floor — accommodate these sturdy fans to any desired location in your office, factory or store. Made in 2 blade sizes, 24" and 30", with the famous 5-Year Factory-to-User Guarantee. Write for free folder No. 444

THE EMERSON ELECTRIC MFG. CO
SAINT LOUIS 21, MISSOURI

EMERSON ELECTRIC
MOTORS • FANS APPLIANCES

▲ Mention Item NED-4083 when writing ▲

# Do You Know... that GORTON

MAKES PRECISION SMALL TOOLS and ACCESSORIES

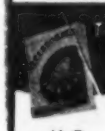
A FEW GORTON MONEY SAVING ACCESSORIES

ROTARY TABLES — Ruggedly constructed for years of accurate service. Available in five popular sizes: 6", 9", 10", 12", 15".

MACHINE VISES — Available in plain and swivel models. All equipped with removable, hardened and ground jaws. Sturdily constructed to withstand rough treatment.

CUTTER GRINDERS — Designed for rapid sharpening of small cutters and end mills of single or multiple flutes. Also handles square, ball and conical nose cutters. Two models available.

CUTTERS AND END MILLS — Gorton cutters and end mills can be purchased in a variety of styles and sizes. All are manufactured with extreme care and of the best tool steels available.



The Complete Story FREE! on Gorton Small Tools and Accessories is contained in Bulletin 1317. Send for your free copy today.

GEORGE GORTON MACHINE CO.
1907 RACINE ST., RACINE, WISCONSIN
J1-C

▲ Mention Item NED-4084 when writing ▲



# SAFE AID IN HANDLING ACIDS

* Easy to operate for air pressure causes a steady, smooth flow of acid. No spurts or splashing.
* Safe for it is impossible to create a dangerous air pressure Flow of acid stops instantly by pressing release valve.
* Economical—longer life assured as no acid contacts pump parts—reasonable replacement parts—proper tube materials available for different acids.
* Convenient—operates at floor level—no lifting of carboys. Pump pipe serves as gauge—easily transferred to new container.

Price $12.80 Complete • Immediate Delivery

GENERAL products include: Goggles, Respirators, Face Shields, Gloves, Aprons, Welding Helmets, First Aid Cabinets & Supplies.

*Send for Bulletins.*
GENERAL SCIENTIFIC EQUIPMENT CO.
2702 W. Huntingdon Sts., Philadelphia 32, Pa.
"COAST TO COAST SAFETY SERVICE"

▲ Mention Item NED-4085 when writing ▲



# RESISTORS

SIZES FOR EVERY NEED

Here are vitreous enameled, wire-wound resistors in almost endless varieties . . . designed to operate under extremes of temperature and humidity . . . built to withstand shock, vibration, and corrosive fumes. Write on company letterhead for Catalog and Engineering Manual No. 40.

OHMITE MANUFACTURING CO.
4841 Flournoy St., Chicago 44, U. S. A.

Be Right with . . . OHMITE
RHEOSTATS • RESISTORS • TAP SWITCHES

▲ Mention Item NED-4086 when writing ▲

Simply TURN IT OVER

LARGE and SMALL PACKAGES on the same

FERGUSON TURN-IT-OVER CONVEYOR

The Ferguson "Turn-It-Over" Conveyor handles both large and small packages. "Set High," it handles packages larger than its width . . . and by simply turning-it-over, it conveys, in "Set Low" position, smaller packages within the protective guard side-rails.

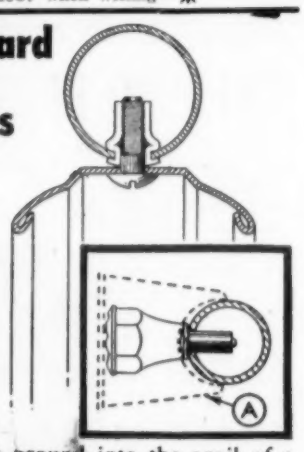
Save valuable time and money with this "two-in-one" gravity roller conveyor, and remember that its dual-purpose construction reduces the number and types of conveyors you require.

"SET LOW"—channel side-rails form a protective guard.
"SET HIGH"—permits handling of larger packages.

HARRY J. FERGUSON COMPANY
WHEEL • PORTABLE BELT • BELT AND ROLLER GRAVITY CONVEYORS
133 WEST AVENUE, JENKINTOWN, PENNA.

▲ Mention Item NED-4087 when writing ▲

NEW USE of standard RIVNUT licks tough fastening problem . . .



Designs for a new bicycle required a blind fastener which would serve as a nutplate for attaching a mudguard to the tubular frame. The head of the rivet had to conform to the curvature of the tubing. A *standard* flat head Rivnut solved the problem.

First, the correct radius was ground into the anvil of a standard heading tool. Guide "A" was added to insure correct curvature. The heading tool then formed the ring-shaped bulge and curved head of the Rivnut at the same time! With its threads still intact, the Rivnut now provided a deeply-threaded nut plate for the mudguard attachment.

Perhaps Rivnuts will simplify your fastenings, reduce your costs. Why not consult a B. F. Goodrich Rivnut engineer?

AUTHORITATIVE LOAD CAPACITIES IN NEW "RIVNUT DATA BOOK"

Eccentric, tension, single and double shear load capacities of various Rivnuts are listed in the new, 40-page edition. Types, sizes and uses are also given. Fully illustrated, including step-by-step drawings of Rivnut installation. Write for your copy to

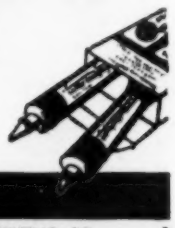
B.F.Goodrich DEPT. NED-77, AKRON, OHIO

▲ Mention Item NED-4088 when writing ▲

PREVENT DANGEROUS Work Seizure!

For SAFETY—Use Only CMD Anti-Scoring CENTER POINT OIL

To avoid personal injury, ruined work, and costly delays, lubricate centers, steady rests, cams and other machine parts with CMD Center Point Oil. It withstands pressure greater than 50,000 lbs. per square inch. Try it free! See for yourself!



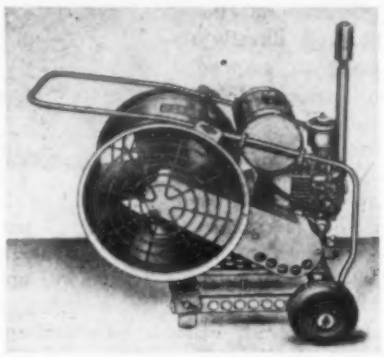
Mail Coupon Now!

FREE TEST KIT

CHICAGO MANUFACTURING & DISTRIBUTING CO.
Dept. 3NED 1928 West 46th Street, Chicago 9, Illinois
Without obligation, please send us a free test kit of one tube of CMD Center Point Oil and one tube of CMD Center Point Lube. Also, send 4-page folder on 30 uses for CMD lubricants.
NAME.....
COMPANY NAME.....
ADDRESS.....

▲ Mention Item NED-4089 when writing ▲

## PORTABLE VENTILATING UNIT

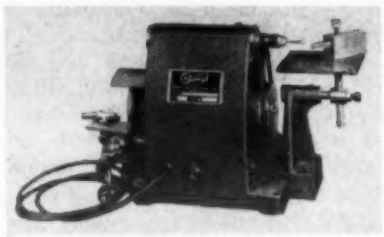


Designed to ventilate and cool welding booths, refrigerator cars, tunnels, manholes, warehouses, airplane hangars, engine rooms, paint spray booths and storage tanks, this improved model portable ventilator (*Item NED-2068, Apr. '44*) has high capacity and can be powered by either gasoline engine or electric motor. Standard equipment includes one 14-inch diameter 16-foot long extensible canvas duct for conveying air to desired point. Two-way air flow permits drawing of smoke, dust or gases from area or for supplying fresh cooling air to desired spot. Maximum air delivery without duct is 4500 cubic feet per minute and with duct is 4000 cubic feet per minute.

Ventilator is mounted on lightweight, easily moved frame which is equipped with two rubber-tired wheels. When not in use, duct can be collapsed into compact package and fastened with carrying strap. Duct is treated for flame and moisture resistance. Made by **Herman Nelson Corp.**, Moline, Ill.

▲ Mention Item **NED-4090** when writing ▲

## BIT & CUTTER GRINDER

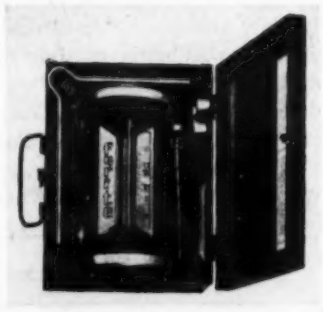


Accurate resharpening of router bits and small diameter shaper cutters can be accomplished by means of this Onsrud bit and cutter grinder. Tool rest tables simplify proper holding of cutters. Tool holder for straight flute router bits is included. Tool holder for spiral router bits is available as optional equipment.

Grinder is light in weight and can be set up for operation on any bench. Grinder motor provides direct drive of 8500 revolutions per minute for cutters and shaper knives, and belt drive to upper spindle provides 30,000 revolutions per minute for router bits. Unit operates from any 110-volt power source. Complete accessories such as grinding wheels in all standard shapes are available. Made by **Onsrud Machine Works, Inc.**, 3956 Palmer St., Chicago 47, Ill.

▲ Mention Item **NED-4091** when writing ▲

## COMBUSTION ANALYZING KIT

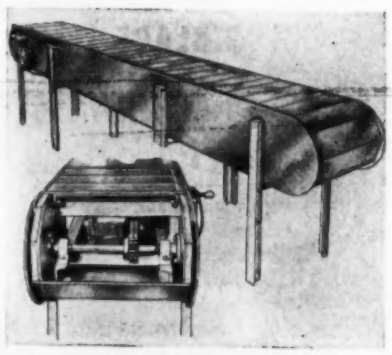


All-metal dial thermometer is now available as optional equipment in place of mercury-in-glass unit in this Fyrite combustion service kit (*Item NED-2679 April '46*). Range of new thermometer is from 100 to 950 F and unit features slip-on handle for use in restricted locations.

In addition to thermometer, kit consists of two separate portable indicators for carbon dioxide analysis and direct oxygen determination. Instruments are packed in metal carrying case together with aspirator and rubber hose for connecting either unit to desired sampling point. Made by **Bacharach Industrial Instrument Co.**, Murtland Ave., Pittsburgh 8, Pa.

▲ Mention Item **NED-4092** when writing ▲

## BELT TYPE CONVEYOR

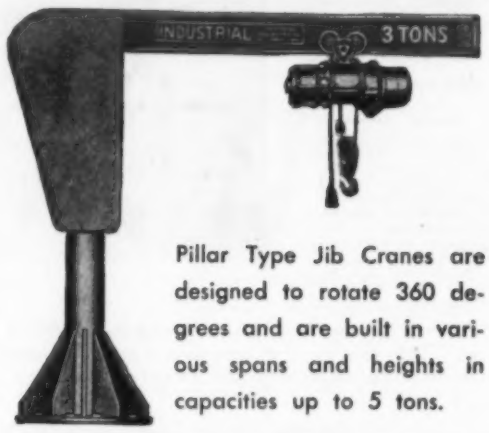


Constructed entirely of aluminum, this Mercury belt type conveyor is rust and corrosion-proof and is resistant to most acids, chemicals and fumes. Units are available in widths from 6 to 60 inches and in heights from 15 inches up. Prefabricated 5-foot sections can be assembled in continuous unit up to 150 feet in only a few minutes time. Conveyors will operate at any speed up to 100 feet per minute, have load carrying capacity of 250 pounds per square foot and have pulling power of 6100 pounds.

All components such as chain, belt, sprockets, channels, angles and frame are heat treated aluminum alloy. Belt is supported by phenolic rollers. Standard equipment includes speed reducer, drive, pillow blocks, takeups, shafts and electric reversible control. Made by **Patron Transmission Co.**, Dept. 68, 129 Grand St., New York 13, N. Y.

▲ Mention Item **NED-4093** when writing ▲

INCREASE YOUR PRODUCTION
INDUSTRIAL JIB CRANES
Faster, Safer Material Handling




Pillar Type Jib Cranes are designed to rotate 360 degrees and are built in various spans and heights in capacities up to 5 tons.

INDUSTRIAL EQUIPMENT CO.
327 N. ADA ST. CHICAGO 7, ILL.
Specialists in MATERIAL HANDLING EQUIPMENT
CRANES — MONORAIL — RUNWAYS — GANTRYS —
ELECTRIC HOISTS — CHAIN HOISTS — AIR HOISTS — TROLLEYS

▲ Mention Item NED-4094 when writing ▲

Why waste time dusting when you can eliminate abrasive dusts with
TORIT DUST COLLECTORS

TORIT Dust Collectors completely filter abrasive dusts from the air around grinding, cut-off and polishing machines. They are self-contained and portable, easy to install, and simple to operate and maintain. Over 15,000 are now in use in every type of industry.

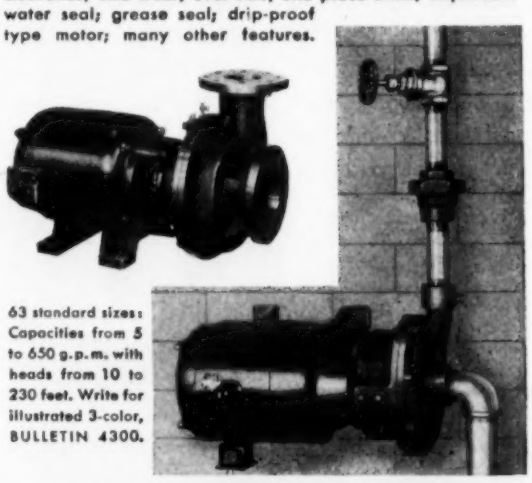
TORIT Dust Collectors improve working conditions and protect valuable machinery. Made in sizes and models to fit all standard machines, they are very economical to own and operate. For complete details and the latest TORIT Catalog write:

TORIT MANUFACTURING CO.
298 Walnut St. • St. Paul 2, Minn.

▲ Mention Item NED-4095 when writing ▲

DEMING MOTOR MOUNT PUMPS

These compact, dependable pumping units have semi-enclosed, three vane impeller adjustable for capacity, head, clearance, and wear; over-size, one piece shaft; adjustable water seal; grease seal; drip-proof type motor; many other features.



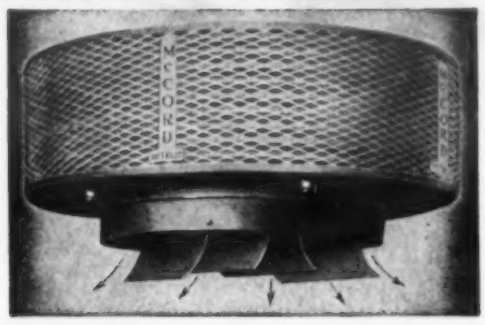
63 standard sizes: Capacities from 5 to 650 g.p.m. with heads from 10 to 230 feet. Write for illustrated 3-color, BULLETIN 4300.

THE DEMING COMPANY
249 BROADWAY AVENUE • SALEM, OHIO

DEMING THE COMPLETE LINE PUMPS AND WATER SYSTEMS

▲ Mention Item NED-4096 when writing ▲

## A UNIT HEATER FOR HIGH AND WIDE BUILDINGS

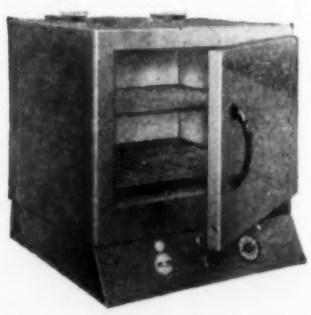



These heaters solve the problem of heating high and wide buildings, such as warehouses, factories, hangars, and garages. The effective distribution of heat from these units permits each heater to adequately service a large area. Every improvement that engineers and the experience of many users is incorporated in the 1944 models. The circular construction is particularly adapted to the spiral fin tube construction because the shape and design of the fin creates an air turbulence without undue restrictions. Fins and tubes are metallically bonded making a highly effective permanent union that maintains contact at high temperatures, providing extra good heat transfer capacity. Due to the careful design, a new degree of quietness has been attained with the result these heaters are being used on installations not previously considered adaptable. New catalog includes complete specifications. Write: McCord Corporation, Detroit, Mich. —Advt.

▲ Mention Item NED-4097 when writing ▲

▲ Mention Item NED-4098 when writing ▲

## NEW LAB OVEN EQUALIZES HEAT!



Only Huppert's MODEL 5700 Combines . . .

- EQUALIZED HEAT throughout oven, with simultaneous venting of unwanted fumes.
- THERMOSTATIC CONTROL, 0° to 550° F. 2% Scale range accuracy.
- TIMER controls heat periods as your schedule requires.
- EXPLOSION-PROOF latches, heavy steel construction, 2" insulation.
- PILOT LIGHT shows On-Off.

For precipitation, ash determination, general chemical, analysis steel drawing, etc.

HUPPERT MODEL 5700 $150

Without Timer $140

ID 20" x 15" x 10"; OD 24" x 26.5" x 24"; 110v. AC, or 220 v. Single Phase; 2800 w. Consumption.

**K. H. HUPPERT CO.**

6838 COTTAGE GROVE AVENUE CHICAGO 37, ILLINOIS

▲ Mention Item NED-4099 when writing ▲

## LIGHTWEIGHT BLOWER

Line of lightweight Hi-Flow centrifugal blowers is designed for producing constant pressure output over broad capacity range. Directly connected to standard 3450-revolution per minute 1/3 to 2-horsepower, electric motors, blowers have hub arrangement for use with regular shaft extension. Units have aluminum housings, bases and side plates, with simplified lightweight steel impeller. Mounting in any of seven positions is facilitated by three-bolt base plates. Flanged outlet connections eliminate need for pipe unions in air line. Normally supplied for clockwise rotation, entire unit can be reversed without special tools. Maintenance is facilitated because blowers are opened readily and they involve no close tolerances. Impellers can be replaced easily if they become damaged.

Blowers are available in from 2 to 6-inch outlet pipe size, supplying from 100 to 525 cubic feet of air per minute in 4-ounce pressure classification, and in 2 and 3-inch outlet sizes furnishing 125 cubic feet per minute at 18-ounce pressure and 275 cubic feet per minute at 16-ounce pressure respectively. Made by Industrial Div., Bryant Heater Co., 1020 London Rd., Cleveland 10, O.

▲ Mention Item NED-4100 when writing ▲

## PARTS INSPECTION MACHINE

Designed for low cost checking of parts on a mass production basis, this model DS-20 DoALL Selector electronic segregator automatically sorts small parts into oversize, acceptable and undersize classifications. Accurate to 0.00001-inch, device will sort parts with tolerances from plus or minus 0.0001-inch to plus or minus 0.005-inch at speeds up to 12,000 parts per hour. Selector is packaged unit ready for operation and consists of gage head, master control and segregator. Three tote pans, gage head stand, table and chair are furnished as standard equipment.

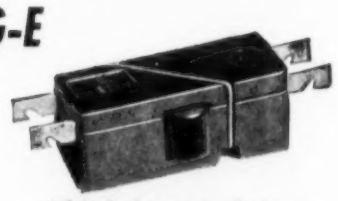
Selector is adjusted easily and quickly by means of gage blocks. In addition to red and green indicating lights, master control unit has graduated indicating dial gage for visible readings of size of each part as it is being sorted. Speed of operation is limited by rate at which parts can be fed to selector. Fully automatic and semiautomatic feed mechanisms are available.

Gage is electronically operated and hermetically sealed against dust and moisture. Selector can be adapted for measuring internal dimensions, for simultaneous checking of more than one dimension or for sorting into more than three classifications. An electrical counter and a hearing aid which makes possible efficient operation by a blind person are accessories which can be added to model. Made by DoALL Co., 254 N. Laurel Ave., Des Plaines, Ill.

▲ Mention Item NED-4101 when writing ▲

## Looking for a really small switch?

## *Here's the G-E Switchette*



***This is its actual size***

Wherever you need to make or break an electric contact, you can use these sturdy, space-saving switchettes. They have an ever-widening variety of applications as limit switches on machine tools, for built-in applications on appliances, and for controlling small motor drives. Because they are small, they fit applications where a larger switch could not be used. At the same time, they are lightning fast in action, and mechanically sturdy enough for millions of operations.

Switchettes come in two sizes—the Size 1 switchette and the Size 2 switchette. The Size 1, measures just $1\frac{1}{4}$ by $\frac{1}{2}$ by $\frac{1}{2}$ inches (excluding terminals) and is available in ratings up to 10 amperes at 230 volts a-c (24 volts d-c). The Size 2 switchette is rated 25 amperes at 26 volts, d-c (115 volts a-c). Approximate dimensions are 2 by $1\frac{3}{8}$ by 1 inches.

Perhaps these versatile switches can help you save time or lick a problem that involves limited space. For further details ask your nearest G-E office for Bulletin GEA-3818D (Size 1) and Bulletin GEA-4259 (Size 2). *Apparatus Department, General Electric Company, Schenectady 5, N. Y.*

676-243

**GENERAL ELECTRIC**

▲ Mention Item NED-4102 when writing ▲

## SEEING UNLIMITED with the NEW PALMER *Thermometer*

● It looks as clear and bright as the desert on a sunny day—when you look at the new Palmer Thermometer. The Extruded Brass Case plus famous "Red-Reading-Mercury" does the trick! You get a standard beautiful chrome finish at no extra charge . . . a full, easy-to-see scale with large, clear numerals, offering visibility never before available.

Other new features include "snap-on" cap, double strength, non-rattling glass, dustproof, fumeproof case. Write for new Bulletins 46-2 and 46-3 for full data.

*AND REMEMBER—specify this new thermometer on original equipment purchased from your jobber or equipment manufacturer—there should be no extra charge!*

In 7, 9, and 12 inch case sizes with chrome finish; in 4 and 6 inch sizes with nickel finish.

**PALMER THERMOMETERS, INC.**

Mfrs. of Industrial, Laboratory, Recording & Dial Thermometers

2523 Norwood Avenue Cincinnati 12, Ohio

Canadian Plant: King and George Sts., Toronto 2

▲ Mention Item NED-4103 when writing ▲

## HALLOWELL

## TOOL STANDS OF STEEL

**help you keep your tools with you . . . always handy to the job**

Fig. 1855

These "Hallowell" Tool Stands—built of sturdy, welded all-steel and equipped with free-rolling casters—enable you to keep your tools with you as you move from job to job . . . provide long, trouble-free service . . . and can be locked to protect your tools. They are available with two drawers as illustrated above . . . with one drawer . . . or without drawers, depending on your needs.

Fig. 2197

**"HALLOWELL" FOREMANS DESK OF STEEL is another time-saver**

Of stand-up height, it can be used to advantage throughout your shop . . . and it enables your foreman to keep his cards, records and other information in a convenient place, always at his finger tips for ready reference. Top is sloped at convenient angle and has a flat, smooth writing surface. Many other styles are available to meet your specific requirements. For details about these, and other time-and labor-saving products, write for "Hallowell" Catalog of Ship Equipment of Steel.

**"Unbrako" and "Hallowell" Products are sold entirely through Industrial Distributors.**

OVER 44 YEARS IN BUSINESS

**STANDARD PRESSED STEEL CO.**

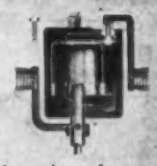
JENKINTOWN, PA. BOX 581

Boston • Chicago • Detroit • Indianapolis • St. Louis • San Francisco

▲ Mention Item NED-4104 when writing ▲

GOOD STEAM TRAPS SAVE MONEY

No one will quarrel with that! Plant operators know that air and condensation must be removed from steam coils and lines rapidly and completely, if the steam is to do its work efficiently.




A good steam trap will do this, day after day, for years, and with a minimum of maintenance or interruption.

The Sarco Inverted Bucket Trap illustrated is such a good steam trap, as testified by hundreds of users who employ them throughout their plants.

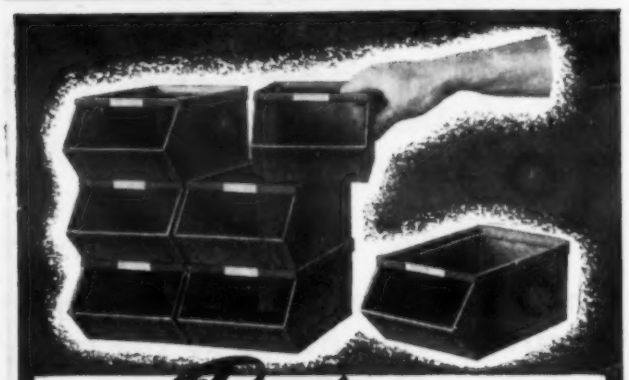
The advanced design includes straight-through connections for easy installation; a strainer built into every trap; stainless steel mechanism attached to the trap cover for easy inspection and cleaning.

Standard types, ½" to 2" up to 250 lbs.; forged steel types to 900 lbs. pressure. Ask for Catalog No. 350.

SARCO SAVES STEAM — SARCO COMPANY, INC. 475 Fifth Avenue, New York 17, N. Y. SARCO CANADA, LTD., 85 Richmond St. W., TORONTO 1, ONT. 202

▲ Mention Item NED-4107 when writing ▲





Parts...

★ Where You Want Them . . .
★ When You Want Them

You'll save time, space and labor handling parts and material when you use these patented STACKBINS. STACKBINS keep parts instantly accessible – eliminate waste hand motions – stack compactly to form units of exactly the right shape and capacity – make order filling or assembly work faster, easier, more efficient. Heavy steel, all-welded construction.

*Manufactured and sold in Canada exclusively by Walter H. Wickware, Ottawa*

**Write Stackbin Corp., 1081 Main St., Pawtucket, R. I.**

STACKBIN SYSTEM "Stacked and Still Accessible"

▲ Mention Item NED-4108 when writing ▲



the thermometer that remembers!

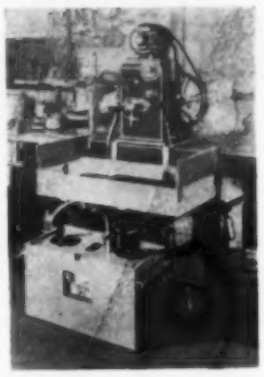
WESTON *all-metal* MAX-MIN* THERMOMETER

The red index pointer on the MAX-MIN is manually set to either the low or high side of the main indicating pointer. When set on the high side, for example, it moves as the temperature increases, always remaining at the extreme temperature reached, until manually re-set. Thus one quick reading gives both *present* temperature and the *peak* temperature since last reading. For complete details see your jobber or local Weston representative. Weston Electrical Instrument Corporation, 663 Frelinghuysen Ave., Newark 5, N. J. *Reg. T. M.

WESTON Instruments

▲ Mention Item NED-4109 when writing ▲


## HONING COOLANT UNIT

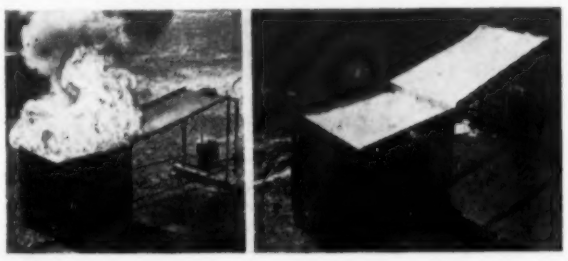


Designed for attachment to Sunnen bushing grinders, this wet-cutting conversion unit will reduce honing time, increase stone and mandrel life and assure accurate finish. Unit can be attached in 20 minutes without need for cutting or drilling. Fractional horsepower centrifugal pump is mounted in 12-gallon baffle equipped coolant tank and it pumps cutting oil to work through Neoprene lines. Flexible metal nozzle directs flow onto work. From work, oil flows to return pan which slides beneath mandrel. Made by **Gray-Mills Corp.**, 1948 Ridge Ave., Evanston, Ill.

▲ Mention Item NED-4110 when writing ▲

## TANK FIRE PROTECTION

Utilizing Aer-o-foam liquid, water and air, this foam type fire fighting equipment is designed for protection of industrial dip and quenching tanks and drainboards. It is said to



be capable of completely extinguishing gasoline fires in 1 minute. Made in three standard sizes for five different water pressures, equipment can be assembled readily on any standard type tank. Assembly consists of brass foam maker body for mixing Aer-o-foam with air and water, steel discharge tube and steel deflector box. Smothering foam is produced by combination of 0.6-per cent Aer-o-foam, 9.4 per cent water and 90 per cent air. Resulting foam flows over surface of burning material and remains until removed by hand. Foam is noncorrosive and will not contaminate oil.

Preferred water pressure is from 20 to 50 pounds per square inch but pressures up to 100 pounds per square inch can be used. Coverage of flaming material is accomplished in from 10 to 15 seconds and fire can be brought under control in 25 to 30 seconds. Complete extinguishing is accomplished in about 1 minute. Made by **National Foam System, Inc.**, 1400 Packard Bldg., Philadelphia 2, Pa.

▲ Mention Item NED-4111 when writing ▲

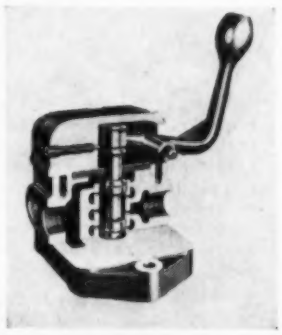
## LIVE CENTER

Available in same general dimensions as standard dead centers, Star live centers are compact and have no overhang. Spindles are made of alloy tool steel hardened to 64 Rockwell and precision ground. Shanks are hardened and ground both internally and externally for fit. Thrust type

ball bearings and Oilite radial bearings are standard. Shafts turn in antiscoring lubricant which will withstand pressures greater than 50,000 pounds per square inch and tails of shanks allow pressure greasing. Tips and parts are replaceable at factory. Centers are available in Morse tapers of 2, 3, 4, and 5 and lengths are 4-1/2, 5-1/2, 7 and 9 inches respectively. Made by **Samuel S. Gelber Co.**, Dept. D, 542 W. Washington Blvd., Chicago 6, Ill.

▲ Mention Item NED-4112 when writing ▲

## AIR CONTROL VALVE



Improved line of four-way valves of sliding piston type includes 79 standard models for air control applications at pressures up to 150 pounds per square inch. Synthetic rubber cup packings assure positive action without leakage. Control types include both directly and remotely operated units. Two and three-position valves have ball detent or spring return to top, bottom or neutral. Three-position valves have cylinder ports exhausting or blocked in neutral. Directly operated valves can be supplied in types for manual, toggle, foot or cam operation. Remotely operated valves include electric, bleeder and pilot pressure types.

Foot and manifold mountings are available in manually, cam and electrically operated valves. Manual valves are made also with flange mounting in which valve body is recessed into mounting surface. Hand operated units have universal handles independent of valve mechanism and top cover can be rotated to place handle in any of four positions. Because parts are interchangeable, manual valves can be converted for many uses. Made by **Logansport Machine Co.**, 908 Center Ave., Logansport, Ind.

▲ Mention Item NED-4113 when writing ▲

DO HARD JOBS THE EASIER WAY with Thor HEAVY-DUTY DRILLS

This U-44 THOR HEAVY DUTY ½" DRILL is unequalled in compact power, light weight convenience and high efficiency for continuous service on hard production and maintenance. There's a full range of sizes—*a tool for every need.* For full information ask your Thor Distributor or write for catalog.

INDEPENDENT PNEUMATIC TOOL CO.
600 W. Jackson Blvd., Chicago 6, Illinois
BRANCHES IN PRINCIPAL CITIES

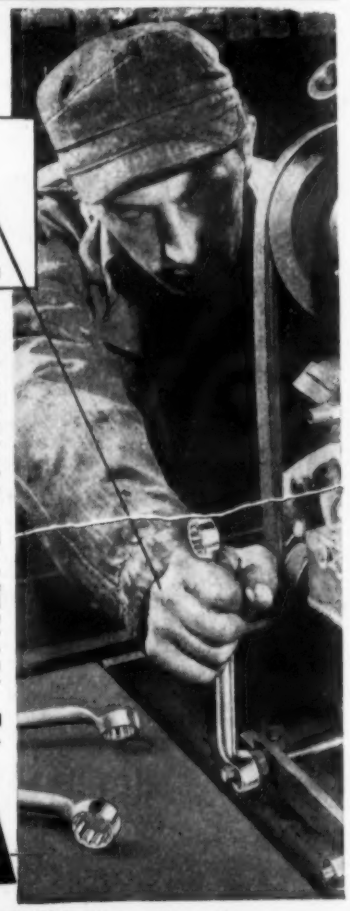
Thor PORTABLE POWER TOOLS

PNEUMATIC TOOLS • UNIVERSAL AND HIGH FREQUENCY ELECTRIC TOOLS • MINING AND CONTRACTORS TOOLS

▲ Mention Item NED-4114 when writing ▲



Adjusting Bolts on an Air Compressor with a Snap-on Blue-Point BOXOCKET



Here is a typical application that demonstrates the importance of a Blue-Point Boxocket. Working space does not permit use of a socket wrench . . . sharp, projecting parts demand a wrench that provides knuckle clearance . . . the nut is large, requiring ample leverage. This is a job that's a "natural" for a Blue-Point Boxocket. It slips on easily . . . completely encircling the nut and gripping firmly on all corners. Note how the offset handle gives ample clearance and avoids skinned knuckles . . . how the long handle length provides powerful leverage. These are features that add speed and safety to your jobs. Complete range of sizes. Direct factory branches are located in 39 principal cities to provide Snap-on's complete tool service to all important industrial areas.

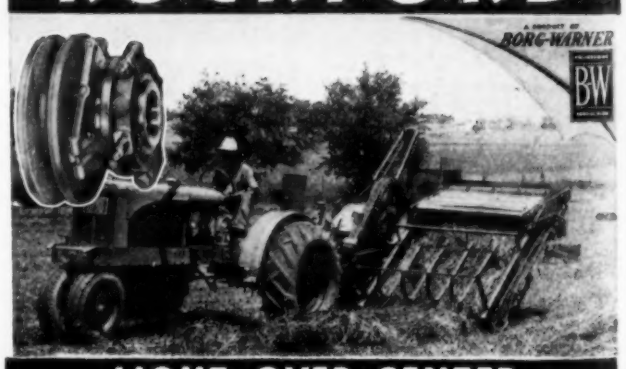
SNAP-ON TOOLS CORPORATION
8042-G 28th Ave., Kenosha, Wis.
International Division:
Kenosha, Wisconsin, U. S. A.

Snap-on Tools THE CHOICE OF BETTER MECHANICS

▲ Mention Item NED-4115 when writing ▲



ROCKFORD




LIGHT OVER-CENTER CLUTCHES

COMPACT DESIGN
POWERFUL PULL
SMOOTH ENGAGEMENT
UNIFORM PRESSURE
FINE ADJUSTMENT
ACCURATE BALANCE
LONG SERVICE LIFE

* Fine adjustment of ROCKFORD Light Over-Center CLUTCHES is accomplished by loosening a conveniently located Locking Screw and turning the threaded, forged-steel Adjusting Plate which carries the operating linkage.

* SEND FOR THIS HANDY BULLETIN
Shows typical installations of ROCKFORD CLUTCHES and POWER TAKE-OFFS. Contains diagrams of unique applications. Furnishes capacity tables, dimensions and complete specifications.

ROCKFORD CLUTCH DIVISION BORG-WARNER
312 Catherine Street, Rockford, Illinois, U. S. A.

▲ Mention Item NED-4116 when writing ▲

THE NEW . . . ELECTRONIC AMPLICALL INTERCOMMUNICATION

*America's Finest*

## Business Communication Systems

Dramatically different in its impressive plastic styling, years-ahead in functional perfection...that's the distinguished New AMPLICALL! Here is the *one* practical business communication system with *all* of the latest advantages you need for time-saving, efficient communication throughout your business.

***Write today for full details on this revolutionary new development in business communication.***

*Electroneering is our business*

RADIO • RADAR SOUND — Rauland — COMMUNICATIONS TELEVISION

THE RAULAND CORP. • 4255 N. KNOX AVE., CHICAGO 41, ILL.

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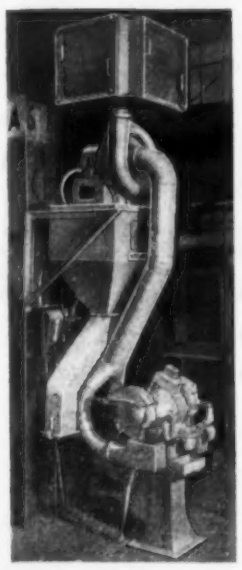
## There's always room for a ROTO-CLONE



**Modern Dust Control Equipment Designed to Fit the Space and the Job**

• This two wheel grinding stand, although placed in a crowded center-of-plant location, is serviced by a wall mounted Type D Roto-Clone. Dust-laden air is removed at the hoods, conveyed to the Roto-Clone where the dust is separated and delivered into the hopper and the air is passed through a final aftercleaner and recirculated to the workroom. A complete, compact operation utilizing unused wall space and designed for disposal of collected dust at floor level. Bulletin 270-A describes this as well as the complete line of Roto-Clone Dust Control Equipment. Write for it today.

**AMERICAN AIR FILTER CO., INC.**
391 Central Ave., Louisville 8, Ky.

AAF

*In Canada:*
*Darling Bros., Ltd., Montreal, P. Q.*

ROTO-CLONE DUST CONTROL

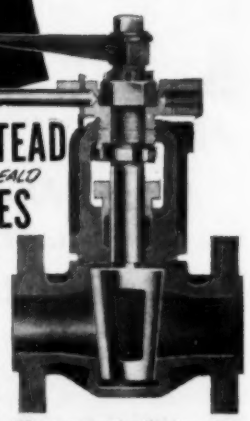
▲ Mention Item NED-4118 when writing ▲



## What do you want in a Valve?

✓Instant Stick Proof Operation?
✓Opened or Closed by a Quarter Turn?
✓Positive Seal without lubrication?
✓Protected Seating Surfaces?
✓Unobstructed Straight-Line Fluid Flow?

*Then you want* HOMESTEAD LEVER-SEALD VALVES



**Built into each valve is a powerful lever-and-screw device that prevents sticking and assures positive action at all times and under all conditions. Corrosive or viscous fluids, extremes of temperature or pressure or other adverse operating conditions that cause ordinary valves to fail cannot affect Homestead Lever-Seald Valves. They operate faster, too . . . 16 to 28 times faster than screw-stem-type valves.**

**Available in combinations of metals and alloys to meet your service requirements, from 1½" to 10" for pressures from vacuum to 1500 pounds.**

**Write for Valve Reference Book No. 38 . . . today.**

HOMESTEAD *LEVER-SEALD VALVES*

HOMESTEAD VALVE MANUFACTURING CO. • P. O. BOX 84 CORAOPOLIS, PENNA.

▲ Mention Item NED-4119 when writing ▲

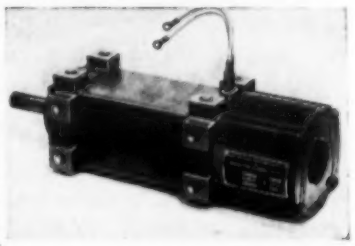

## DOUBLE ROLLER MILL

Roll type feeder of this 1947 model double roller mill will automatically spread stock in an even stream over the entire length of rolls. Unit is recommended for use in flour, cereal and feed milling industries. Safety device protects rolls from injury by hard foreign objects. Adjustments of interchangeable chilled iron rolls are simple and positive.

Feeder housing and spout box is in three sections with front and rear sections removable to make every part accessible for cleaning or adjusting. Rounded corners simplify sanitation problems. Made by Wolf Co., Chambersburg, Pa.

▲ Mention Item NED-4120 when writing ▲

## TWO-HORSEPOWER MOTOR



Lightweight, compact Eemco 2-horsepower universal type motor is especially suited for direct drive applications because of its 5700-revolution per minute operating speed. Motor is of continuous duty type and operates on 115-volt direct or alternating current from 25 to 60 cycles. It is totally enclosed and fan cooled. Aluminum castings, high temperature varnishes and glass fiber insulation are included among features. Overall weight is 22 pounds, length including shaft is 14⅜ inches and diameter is 5 inches. Made by Electrical Engineering & Mfg. Corp., 4606 W. Jefferson Blvd., Los Angeles 16, Calif.

▲ Mention Item NED-4121 when writing ▲

## PROTECTIVE APRON & SLEEVE

Made of multipurpose frosted plastic, Nitroflex aprons and sleeves afford protection against most acids, caustics, oils and solvents. Light, flexible and comfortable to wear, these safety garments resist snagging, abrasion and wear. All seams are sealed electronically and reinforcing grommets are used. Tubular plastic laces are slightly elastic. Light, medium and heavy weights can be furnished in wide range of sizes. Drip pocket styles are available also. Sleeves are 14 inches long and are fitted with adjustable elastic bands at each end. Made by Industrial Products Co., 2807 N. Fourth St., Philadelphia 33, Pa.

▲ Mention Item NED-4122 when writing ▲


## EC&M OIL-IMMERSED OR AIR-BREAK PUSH BUTTON

Type EO for Class 1, Group D Hazardous Locations

★ *The Ideal Push-Button for Lighting Circuits or Control Stations*

APPROVED and listed by the Underwriters' Laboratories for Class 1, Group D Hazardous Locations. Sturdy contacts and operating levers. The tank screws on—may be quickly removed for wiring or inspection. Has provision for padlock to lock in open position.

Ask for Bulletin 1105-B giving complete description, ratings, etc.

THE ELECTRIC CONTROLLER & MFG. CO.
CLEVELAND, OHIO

BRAKES MAGNETS LIMIT-STOPS MOTOR-CONTROL

▲ Mention Item NED-4123 when writing ▲

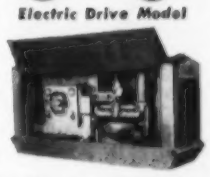
***SIMPLIFIED DUAL CONTROL*** — HOBART makes it possible for you to select the exact welding heat for every job—through 1000 combinations of amperage and voltage offered in the exclusive Dual Control feature of HOBART Welders.

***REMOTE CONTROL*** — Speeds up your welding operations on production and maintenance, saves time and cuts costs, by permitting the operator to accurately control the volt-amp adjustment on the job at any distance from the welding machine. Quickly adjustable for all types of work.

***LIBERAL RATING MEANS MORE FOR YOUR MONEY*** — The output of HOBART Welders actually exceeds its advertised rating — will bring continued and sustained superior performance at a real saving. Modern design and attention to fine quality materials that go into HOBART Arc Welders assure you of the best—a guarantee of the maximum in welding performance.

**HOBART BROTHERS CO., Box ND-77, Troy, O.**

*Better Buy a* **Hobart** *than Wish You Had*



**Electric Drive Model**



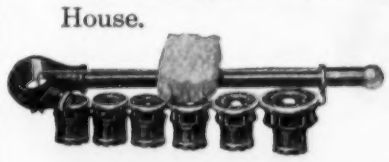
**Gas Drive Arc Welder**

"ONE OF THE WORLD'S LARGEST BUILDERS OF ARC WELDERS"

▲ Mention Item NED-4124 when writing ▲

## Fast, efficient little RIDGID Nos. 00R and 111R for threading ⅛" to 1¼" pipe

● No slow complicated get-ready with these extra-handy small RIDGID threaders. You snap the die heads in easily from either side—can't fall out. You need no special dies for close-to-wall threads. Clean accurate threads always from heat-treated tool-steel dies. No. 00R, ⅛" to 1" —No. 111R, ⅛" to 1¼". Ask for these efficient durable threaders at your Supply House.



*Handy free carrier for any group of sizes.*

RIDGID

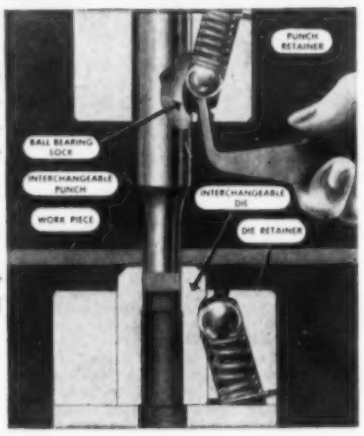
WORK-SAVER PIPE TOOLS

THE RIDGE TOOL COMPANY • ELYRIA, OHIO

▲ Mention Item NED-4125 when writing ▲

## PUNCHES and DIES are Quickly INTERCHANGEABLE

Allied's R-B Interchangeable Punches and Dies are quickly installed for trouble-free production in the metal-working and plastics industries. They are available from stock in *standard* round, oblong and square shapes of almost any required size. Specials of any size, shape or material are promptly furnished to your specifications — and delivery dates are *dependable.*




***Write today for large illustrated R-B Catalog***

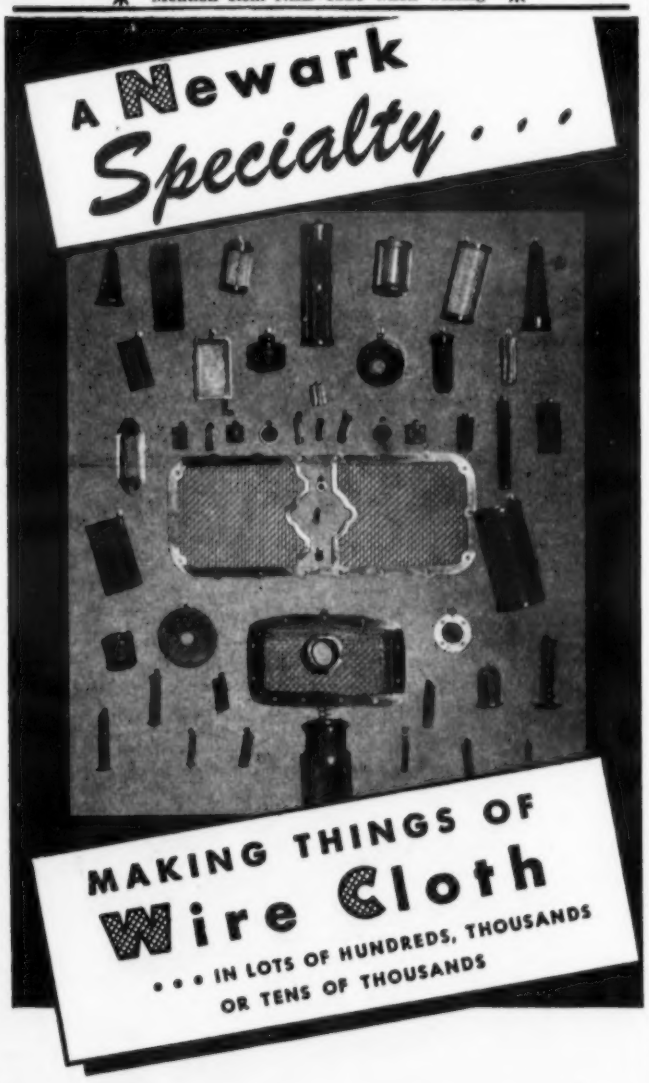
**ALLIED PRODUCTS CORPORATION**

Department 20 • 4610 Lawton Ave., Detroit 8, Mich.

▲ Mention Item NED-4126 when writing ▲



## A Newark Specialty . . .




Does your product require wire cloth screens or filters? Are you interested in a "one responsibility" vendor for such parts?

NEWARK offers complete facilities for weaving wire cloth plus "know how" and the equipment for fabricating the finished product to your specifications. Or if you are having trouble, would our experience along these lines in many diversified industries help in solving your problems?

NEWARK for ACCURACY

**Newark Wire Cloth COMPANY**

**332 Verona Avenue** **Newark 4, New Jersey**

▲ Mention Item NED-4127 when writing ▲


## PORTABLE PUMP

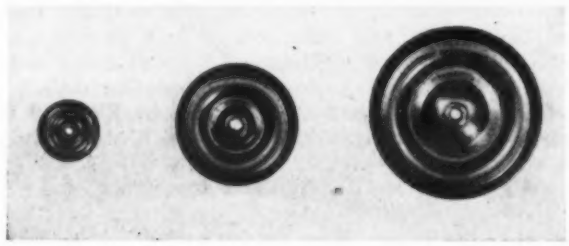
Added to line of marine, industrial and agricultural pumps, Duraflex 6600 portable, high pressure pump employs rubber impellers. Unit combines features of Flomax 10 centrifugal pump with advantages of rubber impeller high pressure pump. Self-contained power source is single-cylinder, four-cycle, air cooled gasoline engine which delivers 5 horsepower. Pump is mounted directly on engine with power transmitted by splined sleeve.

Pump delivers more than 40 gallons per minute at pressure of 120 pounds per square inch. Automatic by-pass valve relieves pressure in excess of 150 pounds per square inch and permits manual relief. By-pass feature permits starting of engine against head of water. Rotors are made of synthetic rubber and can pump solids and abrasives. Impellers expand longitudinally under pressure, preventing water loss by leakage caused by end play. Pulley equipped model for external belt driven power is available also. Made by **Marine Products Co.**, 519 Lycaste Ave., Detroit 14, Mich.

▲ Mention Item NED-4128 when writing ▲

## SOLID RUBBER WHEELS

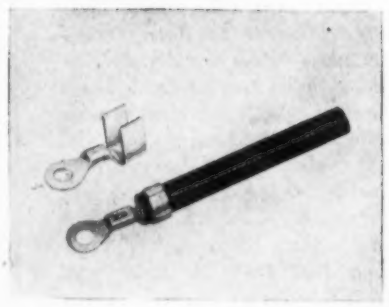
Solid rubber balloon type wheels are available in seven sizes ranging from 11/16 to 3-3/16 inches in diameter. Axle hole sizes are from 0.085 to 0.128-inch and hub thicknesses



range from 3/16 to 5/8-inch. Patterned after automobile type wheels, these units are particularly usable for making toys and other lightweight wheeled articles. Price range is from $1.20 to $62 per thousand, depending upon size, with lower prices in larger quantity lots. Made by **Nesbit Industries, Inc.**, 1823 Milwaukee Ave., Chicago 47, Ill.

▲ Mention Item NED-4129 when writing ▲

## SMALL WIRE TERMINALS



One-piece small wire Hylug terminals are recommended for use with extra thick insulated conductors. U-shaped tab is designed to accommodate leads for switchboard wires, radio transmitters, video and other types of electrical and electronic equipment. Tab prevents fraying of insulation as well as breakage of conductor strands under extreme vibration. Connectors are indented onto conductors by means of Hytool or Hypress, and longitudinal indent thus formed actually coins metal into solid mass. Made by **Burndy Engineering Co.**, 107 Bruckner Blvd., New York 54, N. Y.

▲ Mention Item NED-4130 when writing ▲

## MOTOR OPERATED GREASE GUN

Equipped with positive displacement pump powered by ¼-horsepower universal motor, this high pressure Lubrigun provides for delivery of all types of lubricants which readily seek their own level. Unit is mounted on two large rubber-tired casters and one ball bearing swivel caster for portability. Full lubricant pressure is attained instantly and capacity of lubricant container is 30 pounds. Equipment operates on 110/115-volt alternating or direct current. Seven-foot, high pressure hose assembly with control valve and 12-foot electric plug-in cord are standard equipment. Made by **Lincoln Engineering Co.**, 5703 Natural Bridge Ave., St. Louis 20, Mo.

▲ Mention Item NED-4131 when writing ▲


## WHICH GRINDING OPERATION do you want to speed up, safely?

★ Hard welds
★ Soft steel
★ Non-ferrous metals
★ Gray iron castings
★ Carbide-tipped tools
★ Magnesium
★ Rubber

★ Write today for an Atlantic engineer. Let him *show* you how you can speed up your grinding operations, safely. Atlantic Abrasive Corp., 525 Pearl Street, South Braintree, Mass.

**Atlantic** PATENTED RESINOID BONDED GRINDING WHEELS

▲ Mention Item NED-4132 when writing ▲



*Pouring potting compound for transformers through rectangular heated tank, hose and dispensing valve. All can be electrically heated as required.*

**IT'S STA-WARM "All The Way" from melting to dispensing of many kinds of Compounds**

It's Sta-Warm all the way from heating and melting compounds, to conveying and dispensing, for builders of products requiring a wide variety of waxes, paraffin, asphalt, pitch, oils, Korogel, marine glue, solder, etc.

Sta-Warm will provide you with the heating tank only, or a complete "ensemble" . . . coat, vest and pants . . . all fitted to your production requirements. In the broad line of Standard Sta-Warm tanks, kettles, pots, hose and dispensers you will probably find the answer to your compound heating problem.

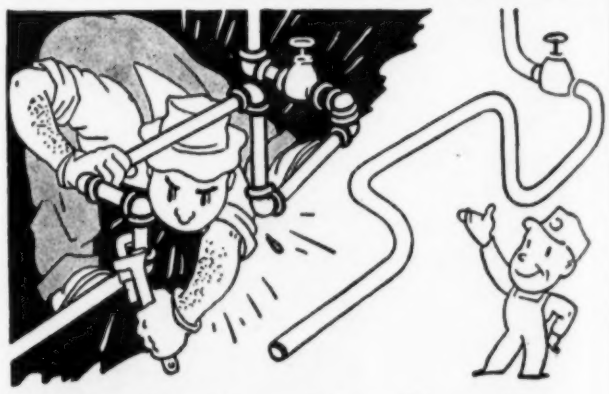
*For specific information, inquire to dept. S today.*

**Sta-Warm ELECTRIC CO.**

130 N. CHESTNUT ST. • RAVENNA, OHIO

▲ Mention Item NED-4133 when writing ▲



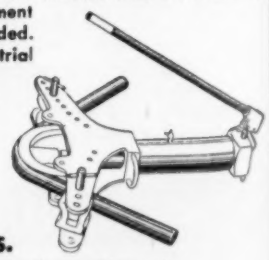


## Don't Mend It—Bend It

**It is Much Faster, Easier, Cheaper, Neater, with**

## Tal's Prestal Pipe Bender

You can make those hard piping jobs easy—bend wrought iron, steel pipe and conduit from ⅜" to 3" in one single, simple operation. Does a perfect workman-like job . . . no kinks, no wrinkles, no heating, no filling. Takes only a few minutes time . . . and a simple, compact motor driven attachment is available if even more speed is needed. Already thousands of leading industrial plants are using this fastest working, portable pipe bender.



HYDRAULIC PORTABLE TAL PRESTAL

**TAL PRESTAL BENDER, INC.**

Dept. NED-3

**Milwaukee 2, Wis.**

▲ Mention Item NED-4134 when writing ▲

**MASTERDRIVES**

*Reclaim Line-shaft machines*

Motorize and modernize with MASTERDRIVE. The complete unit, both motor and drive is Master-made. Available in over 1300 machine tool applications. YOU NAME IT . . . WE'LL MOTORIZE IT . . . and save you money! Get Catalog I. E. D. 646.

**MASTER HOISTS**

*Chain or Cable—Hook or Trolley*

For fast, dependable hoisting . . .at low cost. . .embodying Master Gearhead Motors. . . for long life. . .capacities 250 pounds to 3 tons. . . thousands in daily use. Ask for Hoist folder I. E. D. 646.

MASTER

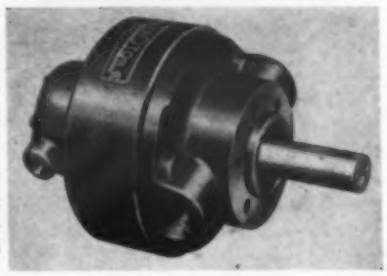
THE MASTER ELECTRIC CO.

INDUSTRIAL EQUIPMENT DIV., DAYTON, OHIO

Machine Drives • Electric Hoists • Electric Hammers • Engine Driven Generator Plants • Portable Grinders • Big 3 (Power, Tool Operation, Concrete Vibration) Units • Tampers

▲ Mention Item NED-4135 when writing ▲

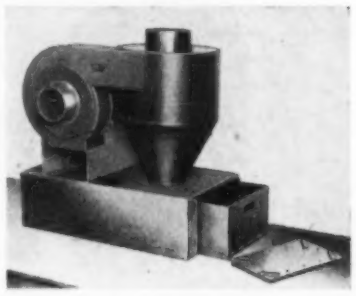

## HYDRAULIC MOTOR



Available in sizes up to 8.7 horsepower, models ME and MH hydraulic motors have flat torque and variable horsepower characteristics. Power output is proportional to shaft speed as long as operating pressure is 1200 pounds per square inch continuous. Both speed and direction of rotation can be controlled. Motors can be stalled under load without damage, operate safely in explosive and corrosive atmospheres, and can be installed in small confined spaces. They are equipped with plain base or flange mounting for direct coupling, belt, chain or gear drive. Made by **Gerotor May Corp.**, Dept. K, Maryland Ave. & Oliver St., Baltimore 3, Md.

▲ Mention Item NED-4138 when writing ▲

## FILTERLESS DUST COLLECTOR



Designed especially for collecting dust, lint and dirt from heavy duty polishing, grinding and buffing work where outside exhaust is desirable, model 11N50 Dustkop dust collector replaces second stage filter with stack connecting sleeve so that cleaned air is conducted outdoors. Unit is powered by 1½-horsepower continuous duty motor which directly drives paddle wheel type self-cleaning fan. Fan handles in excess of 1500 cubic feet of air per minute at 3.2 inches static suction on 6½-inch diameter outlet.

Collected dust is deposited in dust drawer at base of collector. Floor space for installation is 20 x 36 inches and height to top of cyclone is 35 inches. Installation can be simplified by using flexible metallic metal hose. Made by **Aget-Detroit Co.**, Main & Washington Sts., Ann Arbor, Mich.

▲ Mention Item NED-4139 when writing ▲

## PORTABLE FILTER PRESS

Suitable for use in small filtration systems, this portable filter press unit is capable of high efficiency filtration at rate of 60 gallons per hour. Incoming fluid is passed first through Cuno filter which removes colloidal particles 0.0035-inch or larger in size. Built-in relief valve maintains fluid pressure below 60 pounds per square inch without interrupting filtration process. Pump is driven by 1/6-horsepower motor which is suitable for operation on 110-volt, 60-cycle power supply. Made by **Buckeye Laboratories Corp.**, 6700 Morgan Ave., Cleveland 4, O.

▲ Mention Item NED-4140 when writing ▲


**WHY MAINTENANCE WITH SPENCER VACUUM**

*Costs Less-*

A powerful vacuum with easily emptied dirt containers of ample capacity cleans floors, walls and overhead structures faster and better. Equipment maintenance is reduced by keeping it clean inside and out with special vacuum tools which do not allow the dirt to spread.

Spencer is also useful on assembly lines, to remove chips and dust, to reclaim materials, to clean before painting, and to clean the finished goods before packing.

Industrial sizes from 1½ to 100 H.P., portable or stationary. Tools and hose for every purpose.

Ask for the bulletins.

1½ H.P. Portable

333G

SPENCER VACUUM CLEANING

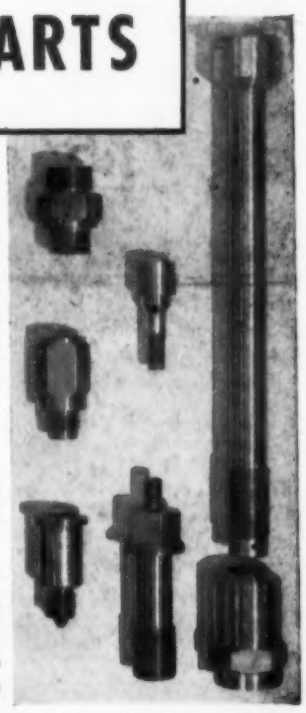
HARTFORD

THE SPENCER TURBINE COMPANY, HARTFORD 6, CONN.

▲ Mention Item NED-4142 when writing ▲

RITCO

**METAL PARTS**



Produced accurately to your specifications in any metal . . . machined or ground . . . RITCO bolts, studs and other parts are of superior quality for heavy duty service. Bolts with precise, clean cut and rolled threads are made to 2" diameter. Nuts to 3½".

REMEMBER RITCO FOR

Drop and Upset Forgings • Complete Machining Facilities • Special Bolts, Nuts and Studs • Milled Body Bolts

*Let us quote on your specifications.*

RHODE ISLAND TOOL COMPANY

148 West River Street, P. O. Box 1516

PROVIDENCE 1, RHODE ISLAND

★ SERVING AMERICAN INDUSTRY SINCE 1834 ★

▲ Mention Item NED-4143 when writing ▲

*Yes - Gas Fired*

**REZNOR HEATERS**

with the **BIG, QUIET FAN**

Floor models or suspended type Reznor gas heaters economically provide heating comfort for offices, factories, and commercial establishments. Easy to install, low maintenance, and less operating trouble make these heaters first choice for occupants and property owners. We will gladly send you literature, write today.

REZNOR

*Gas fired unit heaters*

SUSPENDED OR FLOOR MODEL

A SIZE FOR EVERY NEED

REZNOR CO. MERCER, PENNA.

*GAS FIRED HEATERS SINCE 1888*

NO BOILERS • NO STEAM LINES
NO FUEL STORAGE • NO FIRE TENDING

▲ Mention Item NED-4136 when writing ▲

"FULFLO" TRADE MARK REG. U. S. PAT. OFF.

**CENTRIFUGAL COOLANT PUMPS**

**THE ACTION SPEAKS FOR ITSELF . . .**

**But these few words are good, too**

"They have been giving satisfactory, trouble-free service" . . . write Perfect Circle who use these pumps in their Hagerstown, Ind. plant.

*Cutting Tools and Work Surfaces Are Held to Proper Temperatures.*

**FULFLO COOLANT PUMPS**

bring the coolants as specified for the particular job direct to the proper objectives.

**Standard or special models. Pipe sizes ⅜" to 1½".**

**Write on your letterhead for FULFLO MECHANICAL DATA BOOK**

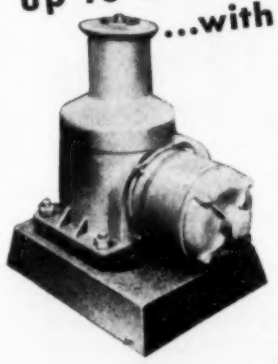
THE FULFLO Specialties Co., Inc.

BLANCHESTER, OHIO

▲ Mention Item NED-4137 when writing ▲

**HOW 1-MAN CAN MOVE**

**up to 6 LOADED CARS ...with an S-A CAR PULLER!**



An S-A CAR PULLER does the work of a switch engine in shifting and spotting loaded or empty cars. One man can move cars easily with a pulling rope snubbed around this powerful electric capstan.

*Ask for Data Book 1339 and prices on Car Pullers, Car Puller Rope, Hooks and Sheaves.*

STEPHEN S-ADAMSON MFG. CO.

Tellevel-Bin Level Controls • Car Loaders • Car Pullers • Winches • Saco Speed Reducers • SealMaster Ball Bearings

12 RIDGEWAY AVE., AURORA, ILLINOIS

▲ Mention Item NED-4141 when writing ▲

**GENERAL CONTROLS . . .**

THE ACKNOWLEDGED STANDARD IN AUTOMATIC PRESSURE, TEMPERATURE AND FLOW CONTROL UNITS.

*Here are a few of an outstanding line of controls for Industrial, Commercial and Domestic applications.*

★ALL-GAS CONTROLS
★AIRCRAFT CONTROLS, ELECTRIC
★AUTOMATIC SAFETY PILOTS
★GAS REGULATORS
★LOW WATER CONTROLS
★GOVERNOR TYPE VALVES
★HI-LOW OFF VALVES
★INDUSTRIAL VALVES
★LOW PRESSURE GAS VALVES
★MOTOR OPERATED VALVES
★MAGNETIC GAS VALVES
★PILOT BURNERS
★PILOT GENERATORS
★REFRIGERATION VALVES
★SOLENOID VALVES
★STRAINERS—RELAYS
★100% SHUT-OFF VALVES
★THERMOSTATIC CONTROLS
★TRANSFORMERS—SWITCHES
★THERMOPILOTS

*Controls for air, water, steam, natural, manufactured and liquefied petroleum gases, light and heavy oils, etc., refrigerants such as: freon, methyl chloride, sulphur dioxide and ammonia.*

*A. C. or D.C., normally closed or open types. High and low pressures and temperatures.* PROVED AND IMPROVED PERFORMANCE IS PROOF THAT YOU CANT BUY BETTER CONTROLS.

FOR COMPLETE SPECIFICATIONS REQUEST NEW CATALOG.

GENERAL CONTROLS

801 ALLEN AVENUE GLENDALE 1, CALIF.

Manufacturers of Automatic Pressure, Temperature and Flow Controls

BRANCH OFFICES AND DISTRIBUTORS IN ALL PRINCIPAL CITIES

▲ Mention Item NED-4144 when writing ▲

# ADSCO

Get this EXPANSION CALCULATOR FREE

Quickly shows expansion per 100 ft. of pipe for various materials and temperatures. Tells traverse needed in ADSCO Expansion Joints. Write for yours.

AMERICAN DISTRICT STEAM CO.
NORTH TONAWANDA, N.Y.

▲ Mention Item NED-4146 when writing ▲



# ONE MINUTE AFTER IT'S APPLIED

YOU CAN TRUCK 50,000 lb. LOADS OVER SWIFT-FLOOR

Here at last! The perfect floor repair material. Use it for a complete floor resurfacing job or a single patch. Your trucks roll while it is being installed. Sets instantly—no interference—no delay. Comes pre-mixed, ready to use. Merely prime, tamp or roll, and let the traffic move. **That's all there is to it.**

SWIFT FLOOR supports loads of 25 tons. Lasts for years. Skid-proof, fireproof, resilient, self-healing. Any average workman can apply it. Write for full information—or better yet order a drum. It's unconditionally guaranteed. You take no risk! A wire brush and tamper included with your first order.

THE MONROE COMPANY, INC.
10705 Quebec Ave. Cleveland 6, Ohio

SWIFT-FLOOR USERS COMPRISE THE BLUE BOOK OF AMERICAN INDUSTRY. JOIN THEM!

▲ Mention Item NED-4147 when writing ▲



# NEW MICRONIC FIBRE CARTRIDGE ELIMINATES THE CHIEF CAUSES OF FILTER FAILURE

Surface-loading and channeling — which cut short ordinary filter life — CAN'T HAPPEN with Cuno Micro-Klean.

An exclusive construction method insures penetration of particles to varying depths and preserves original controlled fibre distribution.

New Micro-Klean bulletin describes unique construction — gives dimensional and application data, also wide range of Cuno housings. Address Cuno Engineering Corporation, 705 South Vine St., Meriden, Conn.

AND CUTS REPLACEMENTS IN HALF

CUNO
Fluid Conditioning

REMOVES MORE SIZES OF SOLIDS FROM MORE TYPES OF FLUIDS

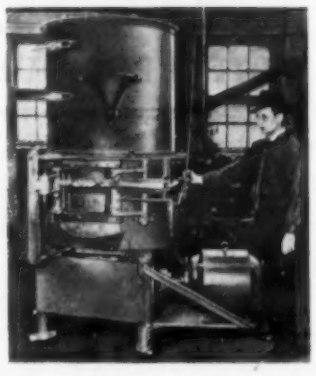
▲ Mention Item NED-4148 when writing ▲


## FLOOR MARKING DEVICE

Facilitating rapid marking of aisles, traffic borders, storage spaces and danger zones within industrial plants or outside areas, **this Newaygo line marking** unit can be used with any kind of paint. Full 2½-inch line is marked by wheel which rolls paint on surface to be marked as it turns. Amount of paint carried onto marker wheel is governed by thumb nut control. Made by **Newaygo Engineering Co.**, Newaygo, Mich.

▲ Mention Item **NED-4149** when writing ▲

## PROCESS INDUSTRY MULLER



Suited to ingredient mixing operations in plastic, food and chemical processing industries, this Speedmullor mixing unit employs pressure and agitation to produce dispersion of components in minimum time. When it is used in plastics industry, resin flake, plasticizer and pigmentation materials are discharged from machine in powder form combined for immediate use in extrusion machines, for injection molding or for indefinite storage. Muller can be used also for preparing special flours, spice mixtures and feeds.

Units are available in six sizes for handling from 3 to 20 cubic feet of material per batch. They will mull ingredients in from 1 to 4 minutes depending on character of mix. Centrifugal force and specially placed plows are used to hold material to be mulled in suspension on sides of bowl in contact with horizontally placed mulling wheels. Made by **Beardsley & Piper Co.**, Special Applications Div., 4710 W. Division St., Chicago 51, Ill.

▲ Mention Item **NED-4150** when writing ▲

## SMALL INDUCTION MOTOR

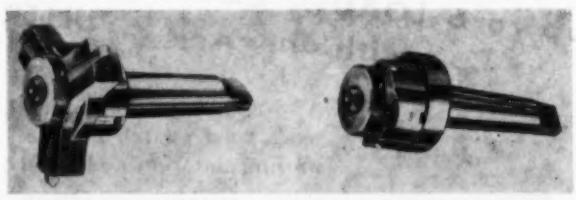
Delivering torque of approximately 1 inch-ounce, this model B-30-A induction motor is of four-pole, single phase, shaded pole construction. Motor can be assembled for either clockwise or counterclockwise rotation. When motor is operating at constant voltage, input power is substantially constant from no-load to blocked rotor condition. Motor can remain energized in stalled position without overheating.

When motor is used in duty cycle which consists of approximately 10 minutes out of each hour, coils can be adjusted to produce relatively high torque and large power input. Standard motor is wound for nominal 24-volt 60-cycle alternating current but can be furnished for 115-volt 60-cycle or other voltages. By doubling stacking thickness, unit can be built for 25-cycle use. Length of shaft and studs can be changed to suit special applications. Two oil retaining porous bronze bearings support 3/16-inch shaft and they are held in zinc bearing blocks. Made by **Gleason-Avery, Inc.**, Auburn, N. Y.

▲ Mention Item **NED-4151** when writing ▲

## INDEXING TYPE BORING HEAD

Designed for repetitive stub bar boring operations, Kwik-Size boring tool can rough, semifinish and finish bore without changing cutter bits. Boring head, which is mounted on ec-



centric arbor, is indexed for individual cuts. Either carbide cutting tools or high speed steel bits can be employed. Boring tool consists of integral heat treated alloy steel eccentric arbor and shank, detachable boring head, drive key and knurled lock nut.

Three sizes of heads are available with boring ranges from 2½ to 5 inches, 4 to 8⅛ inches and 4⅞ to 11⅝ inches. When additional cuts such as counterboring or chamfering are required, extra head is fitted to eccentric arbor. Changing of heads and tool positioning can be accomplished rapidly. Arbors for standard boring tools have No. 5 Morse taper shanks. Other tapers can be supplied. Special and extension arbors are available also to fit specific requirements. Made by **Kaukauna Machine Corp.**, 1000 Lincoln St., Kaukauna, Wis.

▲ Mention Item **NED-4152** when writing ▲


# Get Your Copy OF THIS New BULLETIN

On "SAFETY" Marking Tools
FOR ALL INDUSTRIAL PURPOSES

You need this *New Bulletin*—if you use or buy marking tools. All types of "Safety" steel stamps and dies are illustrated and described—for every marking purpose. Enables you to choose the *correct* tool for your marking application. Write today—we will gladly send the number of copies you desire.

M.E. CUNNINGHAM CO.
SAFETY STEEL STAMPS

151 E. Carson Street Pittsburgh 19, Pa.

▲ Mention Item NED-4153 when writing ▲



# Remove Packings this EASIER way

Use DURA HOOKS
Sturdy ALL STEEL Packing Pullers

HERE is a time saving device for removing old packing from stuffing boxes that will improve your man-power efficiency. DURA HOOKS are rugged, flexible hand-tools that can be used in "hard-to-get-at" places. For best results use two hooks as shown in illustration. Order your requirements today . . .

DURA HOOKS — HANDY SETS

| Set No. | Description | Price |
|---|---|---|
| Set AA | Consists of 3 pairs of hooks, 7½", 11" & 15" in length. For use in packing spaces ¼" to ½" incl. | $10.00 |
| Set BB | Consists of 4 pairs of hooks, 7½", 11", 15" & 19" in length. For use in packing spaces ¼" to ⅝" incl. | 17.00 |
| Set CC | Consists of 5 pairs of hooks, 7½", 11", 15", 19" & 22" in length. For use in packing spaces ¼" to 1" incl. | 25.00 |
| Set DD | Consists of 6 pairs of hooks, 7½", 11", 15", 19", 22" & 30" in length. For use in packing spaces ¼" to all over 1 inch. | 37.00 |

ABOVE PRICES U.S. ONLY . . . ASK YOUR JOBBER OR ORDER DIRECT FROM FACTORY . . . BE SURE TO INCLUDE YOUR PRIORITY

The PERFECT SEAL
DURAMETALLIC CORPORATION
KALAMAZOO MICHIGAN

▲ Mention Item NED-4154 when writing ▲

## NIAGARA Aero Cooling Does It Better!

*And Saves Cooling Water Costs*

**Close Temperature Control in Cooling Fluids**
NIAGARA Aero Heat Exchanger cools liquids or gases to 10° of atmospheric wet bulb temperature and holds to tolerances of 2°F.

**Compressed Air After Cooling**
Furnishes drier compressed air—eliminates half the moisture allowed by conventional after-cooling methods.

**Holding Quenching Baths to Temperature**
Heat treaters increase production, improve quality, decrease rejections by using NIAGARA Aero Heat Exchanger to control quenching bath temperatures.

**Condensing Refrigerant Gases**
NIAGARA Aero-Pass Condenser increases refrigerating plant capacity, saves power. Duo-Pass prevents scaling and clogging of condenser. "Oilout" cleans the oil out of the refrigerating system.

NIAGARA AERO HEAT EXCHANGER is used in liquid cooling in industrial and chemical processess, water jacket cooling, hydraulic fluid, transformer oil, lubricating and cutting oil cooling, vapor and steam condensing.

**NIAGARA BLOWER COMPANY**
*Over 30 Years of Service in Industrial Air Engineering*
Dept. ED-77, 405 Lexington Ave., New York 17, N. Y.
*Field Engineering Offices in Principal Cities*

▲ Mention Item NED-4155 when writing ▲



## A New Mixing Principle for FAST, THOROUGH

**3 Cubic Feet of Mixed Material in 30 Seconds!**

● Developed originally for *cold mixing* asphalt . . . the Foote Kinetic Mixer is finding wide use in industry for fast, uniform mixing of a variety of wet, dry, heavy, and stiff materials. Charges in 5 seconds . . . Injects liquid (up to 8 gallons) in 6 seconds . . . Mixes in 14 seconds . . . Discharges in 5 seconds! Write for descriptive Bulletin K-200.

**THE FOOTE CO., INC.,** 1950 State St., Nunda, N. Y.

*The* **FOOTE** *Kinetic* **mixer**

▲ Mention Item NED-4156 when writing ▲

**4 BASIC "STREAMAIRE" STYLES MEET EVERY NEED**

● Selecting the right convector is easy today, thanks to Young pioneering. *Standardization* simplifies specifications, assures quicker delivery and installation, reduces production costs, makes this modern heating equipment available at a low cost. *Packaging* hastens handling, lessens danger of damage. "Streamaire" Convectors soon may be ordered from stock. Write for catalog today.

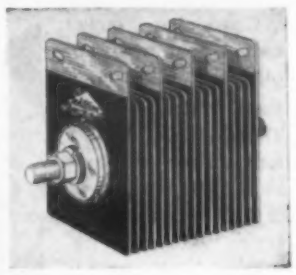
**YOUNG**
**HEAT TRANSFER PRODUCTS**

OIL COOLERS • GAS, GASOLINE, DIESEL ENGINE COOLING RADIATORS • HEAT EXCHANGERS
INTERCOOLERS • EVAPORATIVE COOLERS — ENGINE JACKET WATER COOLERS
GAS COOLERS • UNIT HEATERS — CONVECTORS • CONDENSERS • AIR
CONDITIONING UNITS • EVAPORATORS — HEATING COILS • COOLING COILS
AND A COMPLETE LINE OF AIRCRAFT HEAT TRANSFER EQUIPMENT

**YOUNG RADIATOR CO., Dept. 427-G, RACINE, WIS., U.S.A.**
*Sales and Engineering Offices in all Principal Cities*

▲ Mention Item NED-4157 when writing ▲

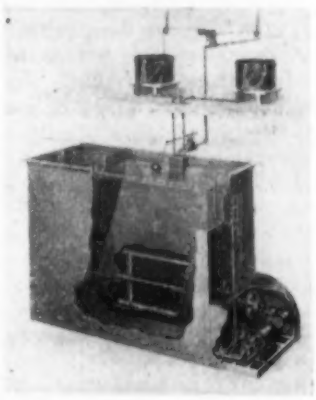

## DRY CONTACT RECTIFIER



Suitable for battery charging and plating operations requiring up to 60-volt direct current from 50 to 50,000 amperes, Lektron heavy duty dry contact rectifier operates at peak efficiency over temperature range of from —40 to 284 F. Unit is of magnesium-copper sulphide type. Magnesium rectifying plates extend beyond core dimensions to serve as heat radiating fins. High heat conductivity of magnesium fins permits efficient cooling without forced air drafts or coolant circulation in many applications. Made by **Electronic Rectifiers, Inc.,** 737 N. East St., Indianapolis. Ind.

▲ Mention Item NED-4158 when writing ▲

## WATER TREATING MACHINE



Designed for treating beverage water, this three-stage Precipitator mixes chemicals with raw water, removes turbidity, color and taste, and stores treated water. Machine can be used for removal of turbidity and color alone or as combination dealkalizer and turbidity remover. During either process water is sterilized.

Rectangular precipitator consists of mixing-coagulation zone, sludge filter zone and clearwell zone. Raw water enters top of mixing-coagulation zone where it is mixed with alum, alkali and hypochloric acid to obtain flocculation. It then flows downward and enters bottom of sludge filter zone where floc and turbidity are removed. Water then moves upward through this zone to clearwell zone. Treated water is drawn off near bottom of clearwell zone and passed through Neutralite filter which removes any remaining floc. It then passes through activated carbon purifier for removal of color and taste. Water emerges clear, uniformly low in alkalinity and completely odorless and tasteless. Made by **Permutit Co.,** 330 W. 42nd St., New York 18, N. Y.

▲ Mention Item NED-4159 when writing ▲

## HEAVY MATERIALS SPRAY GUN

Designed specifically for spraying underseal compounds and other heavy materials, 45 Undercoater is improved model of Shel-matic 45 which is suitable for spraying synthetics and lacquers. Light in weight, gun is leakproof and features enclosed, straight-line action trigger for two-finger operation. It has built-in air control valve. Spray head assembly can be unscrewed without use of wrench for removal and cleaning of needle valve. Made by **A. Shelburne Co.,** 739 Ceres Ave., Los Angeles 21, Calif.

▲ Mention Item NED-4160 when writing ▲

**WHEELS**

Electro HIGH SPEED CUT-OFF WHEELS run true. Coarser grits in harder grades do an already speeded-up job even faster. The introduction of Electro HIGH SPEED CUT-OFF WHEELS reduced cutting time from minutes to seconds. Achievement of wheel truth freed us from grit limitations so that we could give you more speed with greater safety in wheels that run cool and leave a satisfying finish on both sides of their precision cuts. Send for free copy of Grinding Wheel Manual 645 with color photos.

*Service from Los Angeles or Buffalo*

Electro SINCE 1919

K-337

**Electro REFRACTORIES & ALLOYS CORPORATION**
Mfrs. • Refractories • (High Speed Grinding Wheels) • Crucibles • Alloys
344 DELAWARE AVE. BUFFALO 2, N. Y.

▲ Mention Item NED-4161 when writing ▲



## STEPLESS Speed Changes

*from* A-c. Circuits

*with* **RELIANCE V★S DRIVE**

V★S, the *All-electric, Adjustable-speed Drive operating from A-c. Circuits,* gives you an unlimited selection of truly stepless speed changes to assure maximum production from any machine. More facts on this and other important V★S advantages in Bulletin 311. *Write for it!*

*Conveniently-packaged, space-saving V★S Drives are available from 1 to 200 hp.*

RELIANCE V★S DRIVE

**RELIANCE ELECTRIC & ENGINEERING COMPANY**
1082 IVANHOE ROAD • CLEVELAND 10, OHIO

*Sales Representatives in Principal Cities*

▲ Mention Item NED-4162 when writing ▲

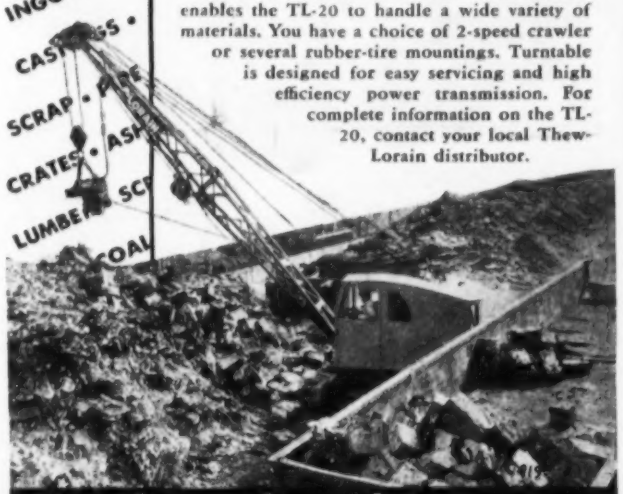


INGOTS • ASHES • CASTINGS • MACHINERY • COAL • SCRAP • SHEET STEEL • INGOTS • PIPE • BARREL • BAR STEEL • CRATES • LUMBER • COAL

**CUT COSTS RIGHT IN YOUR OWN BACK YARD WITH A TL-20**

IF you're man-handling instead of crane-handling materials in the storage yard, you are overlooking the first step to lower production costs. And the Lorain TL-20 is just the all-purpose crane to put this work on a production line basis.

Use of 15 or more different crane attachments enables the TL-20 to handle a wide variety of materials. You have a choice of 2-speed crawler or several rubber-tire mountings. Turntable is designed for easy servicing and high efficiency power transmission. For complete information on the TL-20, contact your local Thew-Lorain distributor.



**The Thew Shovel Company**
LORAIN, OHIO

▲ Mention Item NED-4163 when writing ▲



## Rheostats FOR EVERY SERVICE

From a few basic designs Ward Leonard modifies a rheostat to suit your needs more efficiently, but without the usual high cost of a "Special". Tell us what you want—improved performance, or a faster, easier assembly for your product—and Ward Leonard's "result-engineering" will help you get it. Write for Rheostat Catalog. Ward Leonard Electric Co., Mount Vernon, New York.

Resistors • Rheostats • Relays • Control Devices.

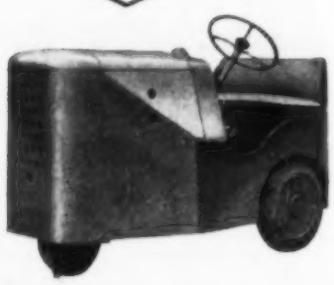
**WARD LEONARD ELECTRIC CO.**
*Result-Engineered Controls*

▲ Mention Item NED-4164 when writing ▲

**SHOP MULES**

Variety of models and attachments (power winches, arc welders, load carrying platform, snowplows, mower bars, etc.) provide a tractor for nearly every pushing and pulling task.
Write for details of the SHOP MULE which will serve you best.

MODEL A3V-U2



INTERNATIONAL HARVESTER POWERED SHOP MULE INDUSTRIAL TRACTORS

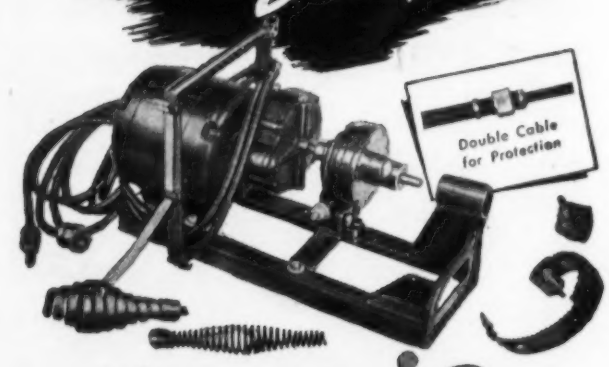
W. F. HEBARD & CO.
338 WEST 37th STREET
CHICAGO 9, ILLINOIS

CREATORS AND MANUFACTURERS OF SHOP MULES SINCE 1918

▲ Mention Item NED-4165 when writing ▲



Clogged Sewers and Drains Cleaned Quickly... Safely and Easily...




with electric eel!

Electric Eel guarantees complete safety to operator because of stationary, protective outer sheath.

- Rotating Inner Cables
- Lines 1 ¼" to 8"
- Runs up to 200 ft.
- 8 years in production
- Over 4,000 in use
- Each tool engineered for particular purpose
- So low in cost that it will pay for itself on the first half dozen usages

OHIO TOOL & ENGINEERING COMPANY, BOX ND-77 SPRINGFIELD, OHIO

OHIO TOOL & ENGINEERING CO., BOX ND-77 SPRINGFIELD, OHIO
Please send without obligation details and prices on items checked below.
☐ ELECTRIC EEL ☐ ELECTRIC EEL JR.
NAME
ADDRESS
CITY ZONE STATE

▲ Mention Item NED-4166 when writing ▲


## SMALL INDUCTION GENERATOR

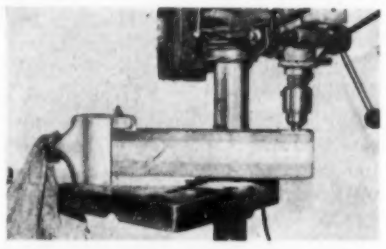
Combining power section and work applicator in one unit, this model No. 43 Ther-Monic bench type induction generator is efficient source of high frequency energy for hardening, brazing, soft soldering, annealing and melting operations. Unit can be used for continuous full load operation on production line or for short run work. Controls provide for either automatic or manual operation. They include automatic reset timer, start and stop control pushbuttons, an "on" and "off" switch, and plug connection for foot switch control of heating cycle. Full load output is approximately 43 British thermal units per minute which is equivalent to approximately 750 watts at nominal operating frequency of 450 kilocycles per second.

Coil leads are designed to facilitate frequent work change-overs involved in spot production, experimental or toolroom jobs. Single or multiple turn coils can be made readily by shaping copper tubing or wire to workpiece. Equipment is protected by means of plate overload circuit breaker and an instantaneous line circuit breaker either of which will automatically shut generator off if improper line voltage or load conditions should arise.

Unit operates on any 120-volt 60-cycle, single-phase power supply outlet. Indicating instruments consist of plate current ammeter and plate and filament supervisory lights. Made by **Induction Heating Corp.**, 389 Lafayette St., New York 3, N.Y.

▲ Mention Item NED-4167 when writing ▲

## BELT SANDER ATTACHMENT



Attachable to any standard drill press, this OK belt sander will perform sanding, grinding, surfacing, deburring and finishing operations. Attachment is comprised of aluminum base with backing plate or platen, driven pulley mounted on steel shaft and cast aluminum driver pulley mounted on ½-inch steel shaft to fit drill press chuck. Base of sander is bolted to drill press table and attachment can be adjusted to use sanding belts from 26 to 36 inches in length. Belt widths can vary from ½ to 3 inches. Device is supplied assembled ready for use with two sanding belts, one coarse and one fine grit. Made by **OK Specialty Co.**, Dept. N-57, 4655 N. Clark St., Chicago, Ill.

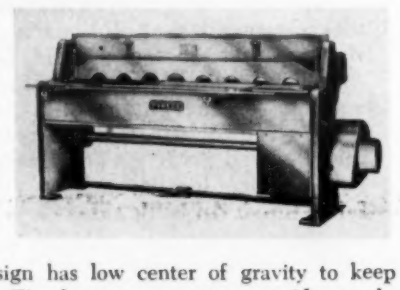
▲ Mention Item NED-4168 when writing ▲

## BOILER WATER CONTROLLER

Positive control of boiler feedwater is accomplished by means of this Micro-Netic electric controller through magnetic action that automatically opens and closes feedwater line when levels reach predetermined points. Control unit weighs 7½ pounds and can be attached to any boiler. It embodies Monel ball float which is capable of resisting 400 pounds per square inch pressure. Float carries steel ring which attracts magnets when ring comes into field to actuate Micro-switch. Made by **J. A. Campbell Co.**, 646 E. Wardlow Rd., Long Beach 7, Calif.

▲ Mention Item NED-4169 when writing ▲

## SQUARING SHEAR



Bed, ram, hold down and working parts of this 10-gage power squaring shear are reinforced and oil-hardened tool steel four-edged blades will cut accurately throughout entire 73-inch cutting length. Compact box type design has low center of gravity to keep vibration to minimum. Five-horsepower motor provides working speed of 85 strokes per minute.

Shear is built of heavy steel plate and parts are normalized after welding to relieve stresses. Unit will cut drawn or folded parts to within 1-1/2 inches of their shoulder allowing close trim on basins, sinks, cowlings and other similar items. Back gage range is 18 inches and front gage is 38 inches. Made by **Parker Mfg. Co.**, 2200 Colorado Ave., Santa Monica, Calif.

▲ Mention Item NED-4170 when writing ▲

EMPTY A BOX CAR FOR $1.90

Four men empty the box car and stack the bags of cement in 30 minutes using a Stevedore, Jr. Power Belt Conveyor line at the H. H. Dickenson Company of Detroit . . . a job that formerly took six men working at least three hours by hand truck. The direct savings from this installation are $15.20 on every car.

Rapids-Standard Stevedore, Jrs., Rapid Power Boosters, Rapid-Wheel and Rapid-Roller Gravity Conveyors and Floor-Veyors will save time and money in handling cartons, kegs, cases, bales, cans or packages. *Write today for full information on the savings they can make for you.*

OFFICES IN PRINCIPAL CITIES

Manufacturers of STEEL FORGED CASTERS · TRUCKS · CONVEYORS · POWER BOOSTERS

The Rapids-Standard Co., Inc.

Sales Div.—378 Peoples Nat'l Bank Bldg., Grand Rapids 2, Mich.

▲ Mention Item NED-4171 when writing ▲



FERROX
ANTI-SLIP TROWELING COMPOSITION

STICKS TO ANY SURFACE INCLUDING STEEL!

A practical, low-cost, safety flooring material for any walkway surface. Adheres tenaciously to steel, concrete, or wood. Troweled on and ready for use in eight hours. Coverage 35 square feet per gallon. Write for prices and name of nearest distributor.

AMERICAN ABRASIVE METALS COMPANY
IRVINGTON 11, NEW JERSEY

▲ Mention Item NED-4172 when writing ▲



YOU'VE EVERYTHING TO GAIN BY GETTING IN TOUCH WITH Accurate FOR THE SPRINGS YOU NEED

Ask us to make your springs for you. Find out for yourself that we're pleasant people to do business with... that we make your springs exactly the way you want them . . . and that—here at Accurate—you receive intelligent cooperation, quality workmanship and on-time deliveries. If you need engineering help, you'll discover that our engineers can quickly help determine the right spring for your job. Perhaps our engineers can improve your product's performance through proper spring application. You *can't* lose. Write for Handbook on Springs.

ACCURATE SPRING MANUFACTURING CO.
3805 W. Lake Street, Chicago 24, Illinois

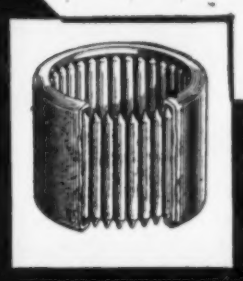
Springs — Accurate Springs — Wire Forms • Stampings

▲ Mention Item NED-4173 when writing ▲

# TORRINGTON NEEDLE BEARINGS

offer unit construction for rapid, easy installation by a simple arbor press operation. No spacers or retainers required. Other advantages include high radial capacity, compact size, efficient lubrication and low cost.

**THE TORRINGTON COMPANY**
**Torrington, Conn. South Bend 21, Ind.**
*Offices in all principal cities*



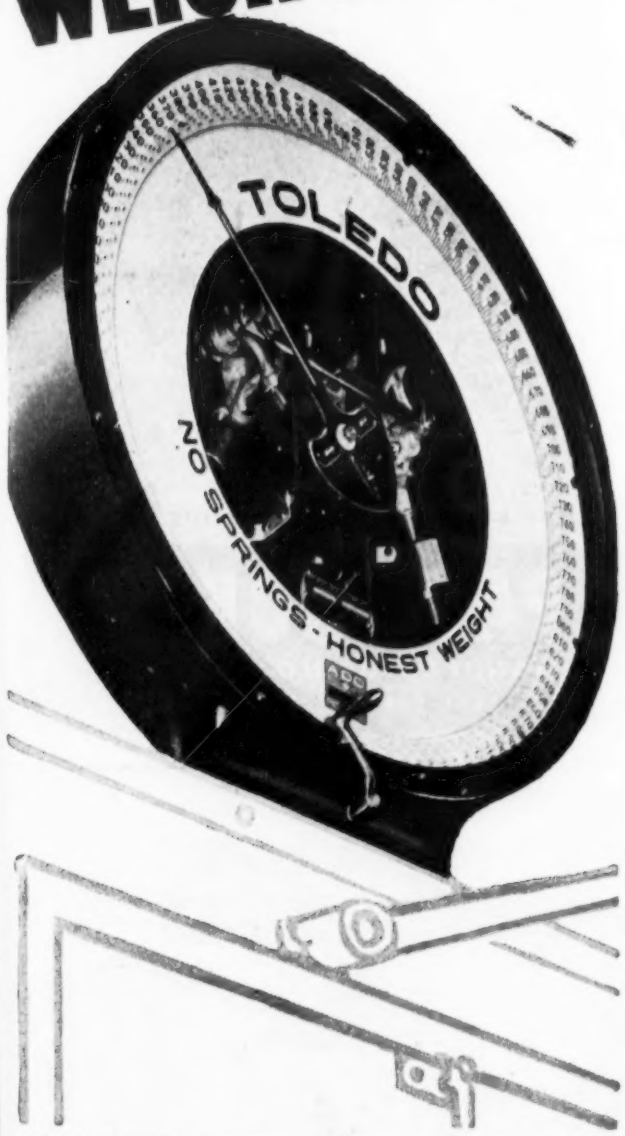
NEEDLE
SPHERICAL ROLLER
TAPERED ROLLER
STRAIGHT ROLLER
BALL

**TORRINGTON BEARINGS**

▲ Mention Item NED-4174 when writing ▲



**POINTING THE WEIGH FOR CLOSER COST CONTROL**




TOLEDOS today meet industry's demands for *greater accuracy in controlling costs*... all the way through production!

Whatever your quality or cost-control problems in weighing, counting, force-measuring, batching or testing... Look to Toledo! At Toledo—you get the broad background of engineering know-how that has designed the world's most complete line of scales. Send for catalog.

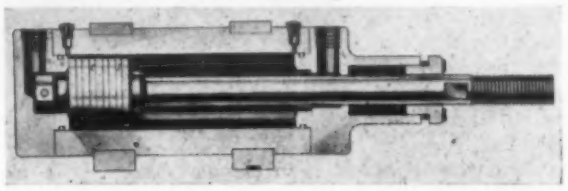
Toledo Scale Company, Toledo 12, Ohio.

**TOLEDO**
**HEADQUARTERS FOR SCALES**

▲ Mention Item NED-4175 when writing ▲


## HYDRAULIC CYLINDER

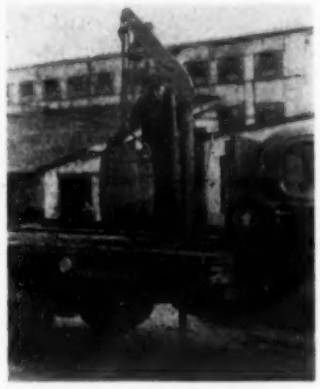
Line of centrifugally cast semisteel hydraulic cylinders is available in standard sizes with bores of from 1½ to 8 inches and strokes to suit application. Cylinders are bored and honed.



Standard construction includes ½-inch cushion at each end, sea ring packing with three rings, plus header, O-ring at each end, follower, cast-iron piston fitted with four automotive type rings, and polished and ground piston rod. Cylinders are rated for pressures up to 1500 pounds per square inch. Line includes all conventional types of mounting. Made by **Hydro-Line Mfg. Co.**, 713 Nineteenth St., Rockford, Ill.

▲ Mention Item NED-4176 when writing ▲

## HYDRAULIC TRUCK CRANE



Incorporating same combination of hydraulic piston and cantilever boom as floor model (*Item NED-6869, Nov. '46*), this Ruger 1-ton hydraulic truck crane is easily mounted on any truck and has adjustable supporting member to prevent deflection of truck springs. Unit is powered by hand operated hydraulic pump. Speed with which load is raised is dependent upon speed with which operator uses hand lever pump. Release valve has fine adjustment so that load can be lowered fast or slowly as desired. Crane is easily rotated in mounting socket and foot brake prevents rotating or swinging under load. It can be fastened out of way when truck is in motion. Made by **Ruger Equipment Co.**, 408 Leader Bldg., Cleveland 14, O.

▲ Mention Item NED-4177 when writing ▲

## AUTOMATIC CLUTCH

Incorporating time delay factor which retards engagement for 1 second or more, this mercury actuated clutch makes possible automatic starting of air compressors and similar equipment. Delay permits motor to attain full speed before any load is applied and this feature eliminates need for pressure relief valves in compressor applications.

Centrifugal force acting on small amount of mercury produces hydraulic pressure which is dependent upon head of mercury. Pressure is utilized without use of levers or other mechanical means to cause engagement of friction elements of clutch. Made by **Mercury Clutch Corp.**, Canton 6, O.

▲ Mention Item NED-4178 when writing ▲


# SCHRAMM
## AIR COMPRESSORS

With Cooling Unit

The built-in type drive utilizes to the fullest extent the efficiency of motor and compressor. It is also more compact and readily installed. Compressor and motor are assembled rigidly and in perfect alignment.

**SCHRAMM INC.** THE COMPRESSOR PEOPLE WEST CHESTER PENNSYLVANIA

▲ Mention Item NED-4179 when writing ▲

Type F ½ — Capacity 1000 lbs. Other Type F hoists for capacities to 20,000 lbs.

**WITH THE NEW SELF-EQUALIZING AUTOMATIC MOTOR BRAKE**

**R&M ELECTRIC HOISTS NOW BETTER THAN EVER**

Here at last is the automatic motor brake that really smooths out electric hoist operation—gives you quick, sure action because its self-aligning friction discs equalize pressure and wear evenly over all braking surfaces. Easily and accurately adjusted, too; simply turn the single, exposed set-screw until maximum efficiency is obtained. Brake coils are dual voltage to correspond with those of hoist motor—only a shift of motor connections is required should power-source voltage change.

You get these advantages, and many more, in new and better Robbins & Myers electric hoists. The many years of hoist and motor experience which have developed these outstanding R & M features can help cut your handling costs; speed and simplify your production. Write today for full information.

**ROBBINS & MYERS, INC.**
HOIST & CRANE DIVISION, SPRINGFIELD, OHIO

▲ Mention Item NED-4180 when writing ▲



**FAST... SIMPLE work holding**

**for GRINDER, LATHE or BENCH**

**Here's a Rotary Chuck** (9" dia.) with many unique features. Does not heat the work . . . no electricity . . . no work thrown off. Holds tightly for light cuts on lathes and on thin work for light machining. Can be clamped to bench for testing or inspection work. When you buy a ROTARY get *ALL* these and other advantages . . . buy a Brown & Sharpe. **Rectangular Models** (5 sizes from 2 7/16" x 5¼" to 12⅛" x 36") and other Permanent Magnet Holding Tools also available.

*For sale only in the United States of America and its Territories. Write for illustrated catalog. Brown & Sharpe Mfg. Co., Providence 1, R. I., U. S. A.*

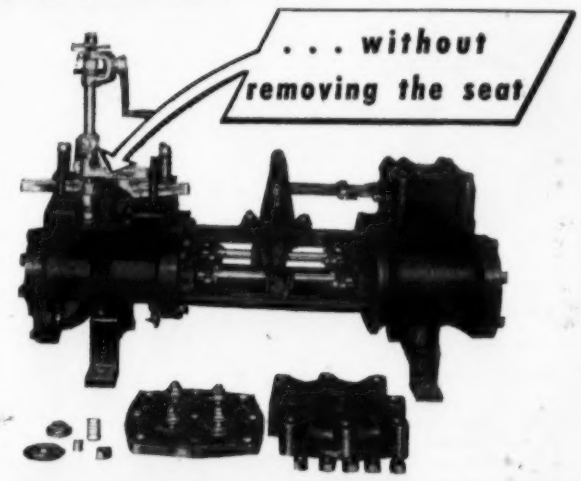
B·S *We urge buying through the Distributor*

**BROWN & SHARPE**
**PERMANENT MAGNET CHUCKS**

▲ Mention Item NED-4181 when writing ▲



# RESEAT . . .




Attach a *Dexter* Pump Valve Reseating Outfit to the head bolts and reface the lower and upper deck seats *right in the pump.*

Save time . . . save money. One man can do the job easily and quickly.

*Dexter Outfits immediately available in sizes to fit 2" to 7½" seats.*

VP-74

**THE LEAVITT MACHINE COMPANY** 190 E. RIVER ST. ORANGE, MASS.

AUTOMATIC AIR SEPARATORS
DRAINS • LATHE CHUCKS

*Dexter* VALVE RESEATING MACHINES

▲ Mention Item NED-4182 when writing ▲

# MOTORS

**Single Phase**
★
**Polyphase**
★
**Direct Current**

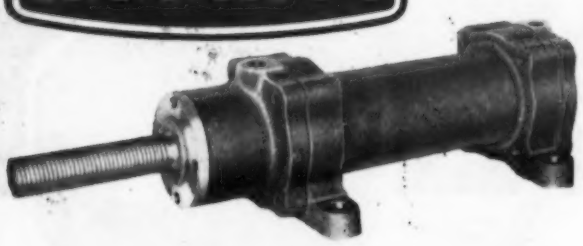
MORE than 50 years in the production of quality electrical equipment have given Peerless engineers and craftsmen proficiency in designing and building motors of maximum efficiency and trouble-free operation.

THE Peerless ELECTRIC COMPANY
WARREN, OHIO

▲ Mention Item NED-4185 when writing ▲



HANNIFIN



*Everything You Want in*
## HYDRAULIC CYLINDERS

**SUPERIOR DESIGN.** An improved type of high pressure hydraulic cylinder. Universal end caps for easy installation and simplified piping . . . tight sealing precision type honed piston rings for maximum power, lasting "leakproof" operation. No-tie-rod design.

**PRECISION CONSTRUCTION.** Cylinders "Tru-Bored" from steel and honed to satin finish by exclusive Hannifin long stroke honing process. Parts interchangeable. Close tolerances between piston and cylinder.

**COMPLETE LINE.** 12 standard bore diameters, 1" to 8" . . . any length stroke you specify . . . 11 standard mounting styles . . . standard, double end, or heavy duty (2:1) piston rods . . . available with adjustable cushions . . . pressures to 1500 lbs. per sq. in. Special types built to order.

**ENGINEERING RECOMMENDATIONS.** Backed by more than forty years of specialized engineering experience. See your local Hannifin representative, or write HANNIFIN CORPORATION, 1101 So. Kilbourn Ave., Chicago 24, Ill.

▲ Mention Item NED-4186 when writing ▲



"Commercial" Fan Housings have been carefully engineered for the ventilating and unit heater industry, and the sizes now offered permit close to maximum efficiency of the unit on which they are installed.

MAKE THAT HORSE POWER COUNT . . .
PUT THE AIR WHERE NEEDED . . .
WITH "COMMERCIAL" FAN HOUSINGS.

The "Commercial" method of manufacture by cold forming eliminates all folds, cracks and welds—this method also increases the inherent strength and stiffness of the metal, reinforcing channels or braces are unnecessary—motor can be carried on the housing. The "Commercial" one piece Venturi type Fan Housing can be furnished in 12 different sizes and in three gauges.

Write for Prices.

THE COMMERCIAL SHEARING & STAMPING CO.
P. O. BOX 719 YOUNGSTOWN 1, OHIO

▲ Mention Item NED-4187 when writing ▲


## COMMUNICATIONS SYSTEM

Five different models of master and remote stations in this line of Selector intercommunication systems can be hooked up in any combination to suit individual requirements. Master stations have combination "on-off" and volume control switch, satin chrome speaker grille and signal light. Control switch can be locked in "listen" position for taking notes. Earphone is provided on two master station models for privacy in receiving incoming calls.

Two master station models are equipped with six selector keys and two have twelve selector keys. Number of stations used is limited only by number of selector keys in master station. Remote stations can be connected in any combination of master stations and through them calls can be initiated as well as received. Selector keys have transparent identification strips for numbers, initials, names or titles of individuals served. Junction boxes for master stations can be installed under desks and out of view. Several stations can be paged simultaneously by a master station. Made by **Radio Corp. of America,** RCA Victor Div., Camden, N. J.

▲ Mention Item NED-4188 when writing ▲

## SMALL AUTOMATIC FURNACE

Designed for hardening punches, dies and small tools, this improved model automatic shop furnace is fully enclosed in housing which protects working parts and eliminates possibility of injury to workmen. Furnace will handle high speed steels satisfactorily and will operate continuously under favorable conditions.

Centrifugal blower is driven by directly connected motor and proportional mixer automatically regulates proportion of gas and air. Control dial is located conveniently on front of furnace. Unit is shipped completely assembled and requires little space. Made by **Eclipse Fuel Engineering Co.,** 738 S. Main St., Rockford, Ill.

▲ Mention Item NED-4189 when writing ▲

## HYDRAULIC TRACTOR LOADER

Designed for attachment to Ford-Ferguson tractors, this Loadtrac hydraulic loading device will facilitate rapid digging, lifting and loading operations. Unit is mounted to tractor by means of axle hinge pins. Built-in self-contained hydraulic system has finger touch control. Pump provides 7½-gallon per minute flow and is powered by spline drive from front of crankshaft. Frame of attachment serves as reservoir for 5 gallons of hydraulic fluid.

Loader will lift 2000 pounds at "breaking-out" position. At height of 8½ feet, unit will carry 1000 pounds. Original installation of fan sheave and axle hinge pins can be made in an hour. Loading attachment can be installed or dismounted in 10 minutes thereafter. Available attachments for use with unit include material bucket, industrial crane, lift fork, bulldozer, sweep-rake, snow plow and coal bucket. Made by **Loadtrac Co.,** 8 S. Michigan Ave., Chicago 3, Ill.

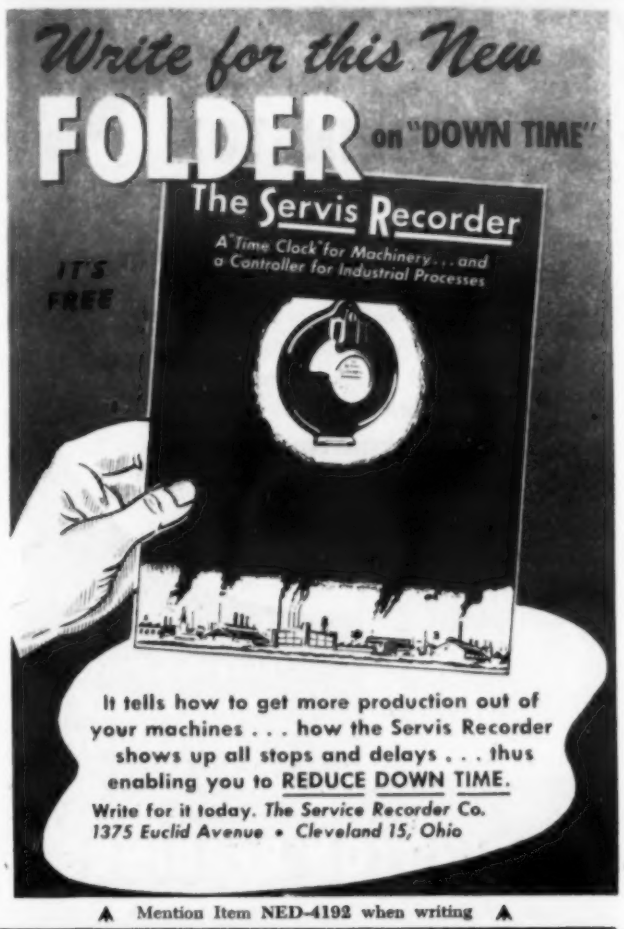
▲ Mention Item NED-4190 when writing ▲

## INDUSTRIAL EAR PLUGS

Means for excluding excessive industrial noise while permitting speech and warning signals to be heard is provided by Ear Defender ear plugs. These tapered tubes are molded from soft, nontoxic, elastomeric material with inner septum for filtering out harmful noises. Comfortable fit and complete closure of ear canal is effected by soft, resilient flange surrounding inner end of device. Outer flange is shaped to conform to lobe of ear and prevents plug from entering ear too far. When plug is fitted properly, approximately 90 per cent of sound is eliminated. Made by **Mine Safety Appliances Co.,** 220 N. Braddock Ave., **Pittsburgh 8, Pa.**

▲ Mention Item NED-4191 when writing ▲


*Write for this New*
**FOLDER** on "DOWN TIME"



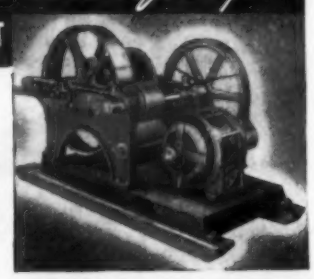

It tells how to get more production out of your machines . . . how the Servis Recorder shows up all stops and delays . . . thus enabling you to REDUCE DOWN TIME.

Write for it today. *The Service Recorder Co.*
*1375 Euclid Avenue • Cleveland 15, Ohio*

▲ Mention Item NED-4192 when writing ▲



*For easy, low-cost lifting...*
**MASON WHIP HOIST**



In 3 capacities, 500 to 1500 pounds, Mason Whip Hoists can be preset for speeds varying from 75 to 400 feet per minute.

Here is a hoist that lifts baled, bagged, boxed or tied merchandise – as much as 1500 pounds as high as 50 feet in as little as 10 seconds . . . higher lifts proportionately.

At only a fraction of the installation and operating costs of other types of equipment, Mason Whip Hoists use outside space or small hatchways, lift loads quickly and safely, and can be operated by any workman. Two men can shift loads directly from truck or car to storage floors, handling as much as 90 units per hour. Mounted in a penthouse, on a storage floor or suspended from the ceiling, Mason Whip Hoists save space, time and labor – handle bulky loads easier and faster.

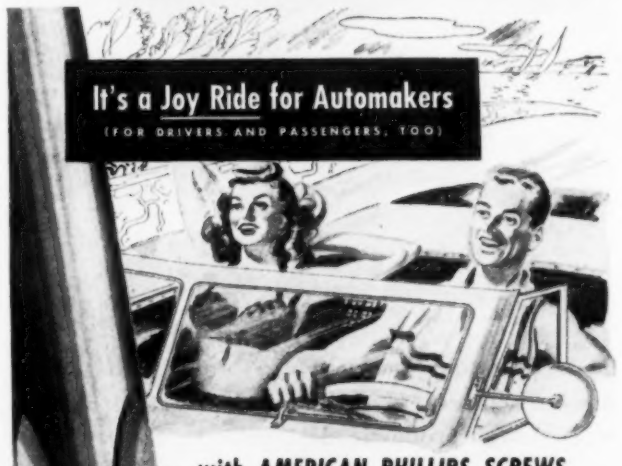
Write for details and prices – see how easily-installed Mason Whip Hoists can help solve your hoisting problems.

**REPAIR PARTS FOR MASON WHIP HOISTS AVAILABLE**

PAWTUCKET
MANUFACTURING COMPANY
327 PINE STREET, PAWTUCKET, R. I.

▲ Mention Item NED-4193 when writing ▲






**. . . with AMERICAN PHILLIPS SCREWS**
*that keep brakes on costs, protect performance, speed up sales*

"STEP ON THE GAS" IN PRODUCTION! Why put up with slow, slip-and-slash, "horse-and-buggy" fastening when AMERICAN PHILLIPS SCREWS can be driven at TOP SPEED. And, they can't be fumbled, fingers can't be mangled, work can't be wrecked—driving is automatically straight. So . . . TOTAL TIME-SAVINGS MOUNT AS HIGH AS 50%.

"STEP ON THE GAS" IN PROMOTION! American Phillips Screws give car, boat, appliance (or whatever you make), a "classy chassis". Clothes and hose can't snag. Resistance to vibration makes another talking point. There's an American Phillips Screw in any type or metal which will win these production and promotion "extras" for you, your distributors and dealers.

AMERICAN SCREW CO., PROVIDENCE, R. I.
**AMERICAN PHILLIPS SCREWS**

▲ Mention Item NED-4194 when writing ▲

# PARKER

**announces a new 10-GAUGE POWER SQUARING SHEAR of EXTRA HEAVY STEEL PLATE CONSTRUCTION**

**MODEL 1072**
10 Ga. Capacity, 6 Ft. Cutting Length Complete With 5 HP Motor, 30 Day Delivery

MODEL 1072 is a big brother to the Parker 14 Ga. Shear and is built with the same fine workmanship, the same all steel welded construction that gives Parker Shears a lifetime of dependable service. Compact, box type design of extra heavy steel plate, Model 1072 is stronger and heavier throughout for heavy duty shearing and long life. Parts are normalized after welding to relieve stresses. Breaking point of steel is three times that of cast iron, hence Parker Shears are equal in strength to machines many times their size. Note the low center of gravity and the economy of floor space. Deep drawn or folded objects may be trimmed within 1½" of shoulder. Oil hardened tool steel, four-way blades reduce time lost for grinding. Parker Shears are sold with a warranty against defects. 30 day delivery on Model 1072, immediate delivery on Model 1472.

SPECIFICATIONS

| MODEL | 1072 | 1472 |
|---|---|---|
| Capacity, mild steel | 10 Ga. | 14 Ga. |
| Cutting length (Max.) | 72" | 72" |
| Blade length | 72" | 72" |
| Upper blade slope | ⅝" | ⅝" |
| Back gauge range | 18" | 18" |
| Front gauge range | 38" | 38" |
| Strokes per min. | 85 | 85 |
| Motor (3 phase) | 5 HP | 2 HP |
| Height | 47" | 47" |
| Floor space | 32"x104" | 30"x102" |
| Wgt. (Approx. lbs.) | 4250 | 2850 |

For complete information on *both* of these high standard shears, write

**PARKER MANUFACTURING COMPANY**
2200 Colorado Avenue
Santa Monica 6, California

▲ Mention Item NED-4195 when writing ▲

# DEMPSTER DUMPSTER

Any number of bodies, but only one truck. That is the Dempster-Dumpster System of materials handling. Bodies ranging from 1-½ to 10 cubic yards capacities. Bodies of many different designs for handling any type of materials, from liquid to dust, from light to heavy weight. But, regardless of body type, all are handled by the same truck. Truck equipped with Dempster-Dumpster hoisting unit capable of handling up to 7-½ tons pay load. Bodies are placed at convenient spots for loading. When filled, truck picks up loaded body, hauls and dumps materials, automatically. Write for Catalog 245 now. Dempster Brothers, Inc., 636 Shea St., Knoxville 17, Tennessee, U. S. A.

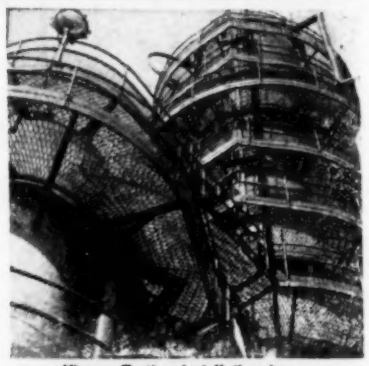
▲ Mention Item NED-4196 when writing ▲

# We'd never "talk you into" KLEMP Open Steel FLOORING

KLEMP SURE FOOTED AS A CAT
OPEN STEEL FLOORING

KLEMP Open Steel Gratings "talk for themselves" wherever specifications call for open flooring

- Absolutely fire-proo
- Light weight. Super-strong
- Self-cleaning
- Permitting free circulation of air and water, and passage of light.



Klemp Grating installation in oil refinery

Klemp Welded — Klemp Riveted

KLEMP Gratings are prefabricated. Cut to your exact specifications, complete, ready to install. Satisfaction insured by 40 years steel flooring leadership. Three shifts a day required to meet today's demand.

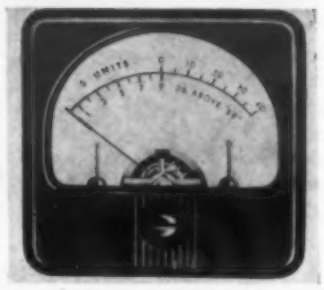
Send for New Free Book, "Open Steel Grating and Stair Treads".

Valuable up-to-minute cost-saving information. Many installations pictured. *Also*—if you have a maintenance problem with concrete or asphalt flooring, ask for Catalogs on Klemp Hexteel Heavy Duty Surface Armor, and Floorsteel—The Flexible Floor Armor that Rolls Out Like a Rug. Write

**WM. F. KLEMP COMPANY**
"Steel Flooring Specialists"
6607 S. MELVINA AVE., CHICAGO 38, ILL.

▲ Mention Item NED-4197 when writing ▲

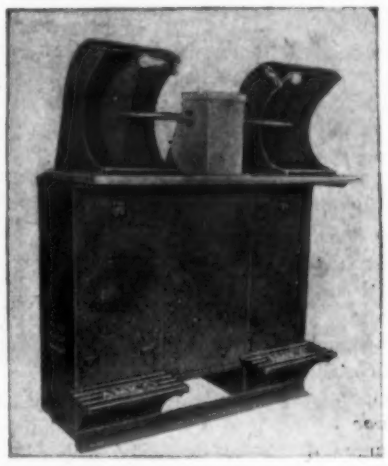
# INSTRUMENT ILLUMINATION



Developed for illuminating dials of several Marion instruments, system of dial illumination seals instrument against dust and dirt, assures use of correct bulb size and safeguards movement. Bulb is inserted in transparent Lucite cavity. Even, bright illmination is assured across entire dial by new Alnico magnet which has front face shaped somewhat like flashlight reflector to concentrate light's rays on dial. Warp-free, permanent white, translucent dials permit reading without glare. Made by **Marion Electrical Instrument Co.**, Manchester, N. H.

▲ Mention Item NED-4198 when writing ▲

# POLISHING LATHE

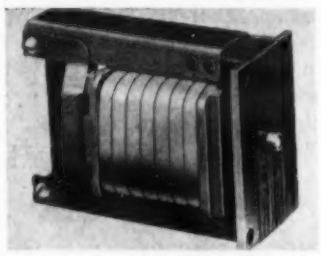


Suitable for use in plastics manufacturing plants, plating rooms, foundries, tool rooms or laboratories, model No. 400 Washed Air polishing lathe is equipped with self-contained dust collecting unit. Machine is adaptable as grinder also. It is powered by 1725-revolution per minute motor in sizes ranging from ½ to 3 horsepower and with standard current characteristics.

Dust is drawn from work by 4-inch duct in each collector. Removable receptacle on intake side of exhaust fan traps foreign objects and prevents them from being drawn into system. Dust laden air is cleaned by being passed through water and is returned to workroom through louvers in side of collector. Foot rests for operator's feet and lights in hoods are additional features. Made by **Ralph Hochman & Co.**, 56 Edison Pl., Newark, N. J.

▲ Mention Item NED-4199 when writing ▲

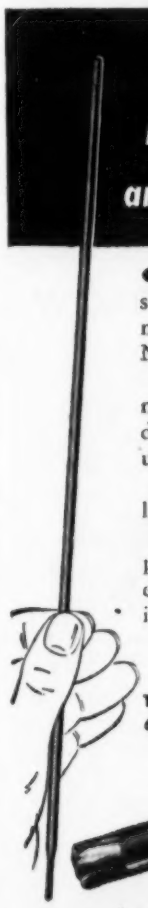
# GENERAL PURPOSE SOLENOID



Armature of this general purpose solenoid is designed with a self-contained built-in pusher which makes unit adaptable to push or pull operations. Solenoid consists of base armature, coil, coil locks and back stops. Unit can be disassembled and coil replaced by removing only two screws. Armature is T-shaped and produces effective magnetic circuit. Voltage rating for each coil is clearly indicated. Current required to maintain magnetic circuit is extremely small and therefore prevents harmful temperature rise. Made by **Practical Electric Co.**, 4505 Oakwood Blvd., Melvindale, Mich.

▲ Mention Item NED-4200 when writing ▲

# Save time and labor in ASSEMBLING STEEL and CAST IRON PARTS



● Are you assembling cast iron parts, or joining steel to cast iron, with bolts and rivets? If so, you may have a big saving coming . . . by welding with Ni-Rod*.

For Ni-Rod is no ordinary welding rod. It's new. It's fast. It gives strong, ductile, machinable deposits. It's easy handling. And, pre-heating is usually not required.

Even inexperienced welders handle Ni-Rod like experts: after just a little practice.

Check over your assembly lines now. You'll probably find several places where Ni-Rod can eliminate time-consuming riveting, bolting, drilling and tapping.

*Reg. U.S. Pat. Off.

*Your nearest INCO distributor has Ni-Rod in 3/32", 1/8", 5/32" and 3/16" sizes.*

**THE INTERNATIONAL NICKEL COMPANY, INC.**
69 Wall Street, New York 5, N. Y.

**SEND FOR INSTRUCTION BOOKLET**

▲ Mention Item NED-4201 when writing ▲

# Now! you can have QUIET CLEANING with the TORNADO NOISELESS VACUUM CLEANER

**Use this powerful, industrial-type vacuum cleaner anywhere, anytime—*it will not disturb anyone!* Motor and suction fan completely enclosed and entire mechanism fully sound-deadened.**

**Yet this TORNADO NOISELESS has tremendous suction power, sturdy strength, large capacity—does all jobs quickly, thoroughly, completely in less time—with less effort.**

***Write for Literature or Free Demonstration***

Prove to yourself that NOISELESS Vacuum Cleaning is possible.

**BREUER ELECTRIC MFG. CO.**
5092 RAVENSWOOD AVE., CHICAGO 40, ILL.

TAKE THE DUST OUT OF INDUSTRY
*with* BREUER INDUSTRIAL
**TORNADO**
BLOWERS and CLEANERS

▲ Mention Item NED-4202 when writing ▲

# *Pneumatic* Screw Driver

**Picks Up Screws and Drives Them in One Speedy Operation**

**An air-suction finder enables operators to pick up screws and drive them directly into the work. Weight of the screwdriver is 8 ounces.**

**2 SIZES AVAILABLE**

**Size 12A-1 for 2,500-rpm work with free-running machine screws up to No. 3, and small self-tapping and wood screws. Size 12A-IC for 10,000-rpm work with machine screws in the No. 3 to No. 6 range, and smaller self-tapping and wood screws.**

**Write for Folder**

**KELLER**
*Pneumatic Tools*
Keller Tool Company
4707 Nora Street, Grand Haven, Michigan
Offices in all principal cities in the United States

▲ Mention Item NED-4203 when writing ▲

# LIGNOTITE CASEIN GLUE FOR EVERY WOODWORKING PURPOSE

## EASIEST TO PREPARE

LIGNOTITE CASEIN GLUE No. 4156 dissolves faster without lumping . . gives increased production because operators "like to work with it." Dependable, highly water-resistant, stainless, with a longer working life. *Can be used at any working temperature above freezing.*

One user says, "We ran a test on 69 table tops and had only six failures in bending the tops. All failures occurred in the wood itself. There were no failures in the adhesive . . . the best record of any casein glue used in our plant!"

**Benefit by using this Improved Casein Glue**

**SEND FOR TRIAL SHIPMENT ON APPROVAL**

Gentlemen: Please ship at once, ON APPROVAL, the trial order of LIGNOTITE CASEIN GLUE No. 4156 indicated below:

____ 5 lb. Cans @ 43c lb., ____ 25 lb. Drums @ 38c lb., ____ 100 lb. Drums 30c lb. F.O.B. CHICAGO or NEW YORK. Lower prices in larger packings.

____ Send Free Lignotite Technical Service Bulletin.

Paisley PRODUCTS ADHESIVES

FIRM _____
BUYER _____
STREET _____
CITY _____ STATE _____

**PAISLEY PRODUCTS INCORPORATED**
Manufacturers of Glues, Pastes, Resin Adhesives, Cements and Related Chemical Products
1770 CANALPORT AVE., CHICAGO 16, ILL. ★ 630 W. 51st STREET, NEW YORK 19, N. Y.

▲ Mention Item NED-4204 when writing ▲

# BURNDY

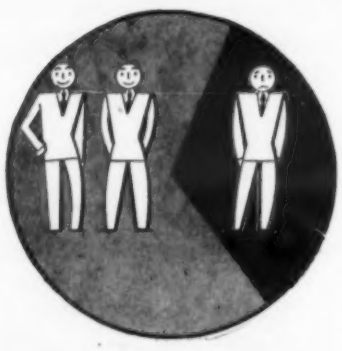
# HYLUGS

BURNDY... New York 54, N. Y. In Canada: Canadian Line Materials, Ltd., Toronto 13. Foreign: Philips Export Corp., New York 17, N. Y.

▲ Mention Item NED-4205 when writing ▲



2 OUT OF 3



INDUSTRIAL CONCERNS PREFER NICHOLSON FILES

Nicholson file brands enjoy a wide margin of user preference. Specific surveys conducted by impartial agencies substantiate it. The big reason is that these files have everything the user has every right to expect:

QUALITY—in steel, design, sharpness and long serviceable life—that through man-hour savings can readily cut file costs to the vanishing point.

UNIFORMITY—in shape, balance, cut and hardness—that under the sweeping Nicholson guarantee assures you *Twelve perfect files in every dozen.*

The best distributors in every industrial area sell Nicholson or Black Diamond file brands... because they find it to the best interests of both their customers and themselves.

NICHOLSON U.S.A.

NICHOLSON FILE COMPANY
34 Acorn St., Providence 1, R. I.
*(In Canada, Port Hope, Ont.)*

BLACK DIAMOND TRADE MARK

NICHOLSON FILES *FOR EVERY PURPOSE*

▲ Mention Item NED-4206 when writing ▲



The FLEX V TRADE-MARK Belt Fastener for A and B Belts of open end construction

Size No. A180 for A Belts
Size No. B214 for B Belts

Flex V fasteners are made in two sizes for joining A and B V-belts of special open-end cross-woven fabric construction and on drives rated as light duty with a belt speed of not over 3000 feet per minute. The fasteners must not be used on heavy duty or high speed drives or for joining or repairing V-belts that were originally endless.

Flex V fasteners are easy to apply with the special applicator tool. The separable hinge joint makes for quick replacement of V-belts without dismantling shafting or machinery. Flex V fastened V-belts can also be run on V Flat Drives for there is no metal on the under side of the belt to contact the flat faced pulley.

Folder No. V-12 gives complete details on this Flex V fastener with list prices, special tools and application information. Your request will bring a copy.

*Order from your supply house*

FLEXIBLE STEEL LACING CO.
4664 LEXINGTON ST., CHICAGO 44, ILLINOIS

Also sole manufacturers of Alligator Steel Belt Lacing for flat transmission belts. Alligator V-belt Fasteners for V-belts and Flexco HD Belt Fasteners and Rip Plates for fastening and repairing conveyor belts.

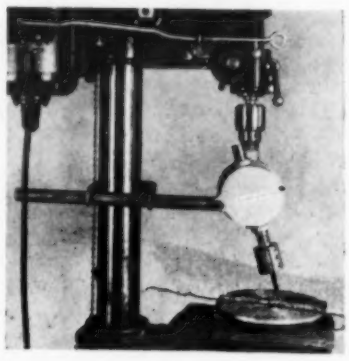
▲ Mention Item NED-4207 when writing ▲


## RUBBER-TIRED WHEELS

Line of rubber-tired wheels for use on wide range of equipment includes sizes from 4 to 14 inches in diameter with from 1.75 to 3-inch diameter of tire cross section. Tires are of punctureproof Zero Pressure type. Wheels are available with choice of sealed ball bearings, plain bronze or oil impregnated sintered bronze bearings. Maximum standard bore is ⅝-inch. Tires are identified by well known brand names and are demountable with ordinary hand tools. Sealed and welded ball bearing hub will not lose balls or get out of alignment. All parts are heat treated. Made by **Champion Iron Works, Inc.**, 2223 Gratiot Ave., Dept. UU, Detroit, Mich.

▲ Mention Item NED-4208 when writing ▲

## DRILL PRESS ATTACHMENT

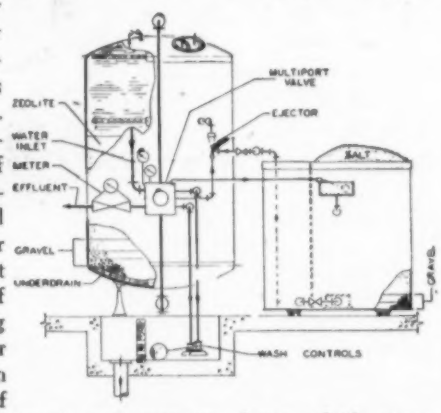


When used in conjunction with any standard drill press, this Reciprocating Tool attachment will file, saw, lap, hone, slot, punch, stamp, rivet and mark. Attached to vertical mill, unit will precision shape or slot dies, punches, stripper plates, keyways, gears and racks. Tool attachment is adjustable on angle as much as 30 degrees each side of center. Speed range and depth of throat are limited only by capacity of machine to which it is attached. Holding clamp fits any round column drill press up to 3¾ inches. Spindle will fit any ½-inch capacity drill chuck. Standard hack saw blade can be used and ⅜-inch hole through tool holder permits full length use of all files. Length of stroke is fixed at 1½ inches. All moving parts are fully enclosed and packed in grease. Made by **Elser Tool Co.**, 23902 Van Born Rd., Dearborn, Mich.

▲ Mention Item NED-4209 when writing ▲

## WATER SOFTENING DEVICE

Applicable in boiler and textile plants, municipal water plants and industrial organizations, Liquon sodium zeolite water softener unit produces water containing practically no hardness and only 0 to 2 parts per million of hardness expressed as calcium carbonate. Unit assures correct distribution of incoming hard water so that it will not channel or short circuit through bed of zeolite during process. Similar distribution system controls flow of outgoing dirty backwash and incoming brine which regenerates zeolite. Underdrain system below zeolite bed maintains efficient collection and unimpeded flow of softened water. Unit can be provided with single multiport valve which controls all operations of softening, backwashing and regenerating cycles.




Nonsiliceous Liquonex CR synthetic resin zeolite does not impart silica to treated water feed. Regenerant tank combines salt storage and brine solution compartments in single container together with measuring control. Made by **Liquid Conditioning Corp.**, Dept. ND, 114 E. Price St., Linden, N. J.

▲ Mention Item NED-4210 when writing ▲

## MECHANIZED WHEELBARROW

Capable of carrying 1-ton load at speeds of up to 15 miles per hour, this Scootruk mechanized wheelbarrow is powered by 6-horsepower air cooled Novo engine. It has dumping facilities which are controlled from driver's seat. Unit is said to be capable of doing the work of five wheelbarrows on incline hauls of 100 feet or less and eight wheelbarrows on longer trips. It can be used for scaffold or second story work because it weighs only 1000 pounds. Four-speed transmission and reverse provide power for grades and speed for level travel. Airplane type tires are furnished as standard. Maneuvering is facilitated by use of single steering tailwheel. Made by **Novo Engine Co.**, 100 Porter St., Lansing, Mich.

▲ Mention Item NED-4211 when writing ▲

*Blaw-Knox No. 667 rated ½ cu. yd. narrow hard digging bucket. Two-line lever arm type with counterweights.*

THE BUSINESS END OF YOUR CRANE INVESTMENT

So, to insure the maximum returns on this investment, your bucket must get the most work done with the least crane time... From over 100 types and sizes of Blaw-Knox Buckets there's one that's *right* for your operations—it can be found in Blaw-Knox Catalog #2076.

YOUR GUIDE TO PROPER BUCKET SELECTION

BLAW-KNOX DIVISION
of Blaw-Knox Company
2068 Farmers Bank Bldg., Pittsburgh 22, Pa.

BLAW-KNOX BUCKETS

▲ Mention Item NED-4212 when writing ▲

MATHEWS CONVEYER COMPANY
ELLWOOD CITY, PENNA.
PORT HOPE, ONTARIO • SAN CARLOS, CAL.

▲ Mention Item NED-4213 when writing ▲



Simplify
Speed up
Save on
} DUMPING

with UNION METAL Materials Handling Equipment

PICTURED here is a Fork-Roll-Over Box used for dumping scrap into a truck. This and other Union Metal materials "handlers" are ideal for moving or dumping raw materials, scrap, or finished products. They *Save Time... Speed Production... Cut Costs.* Increase the spread between production cost and selling price... find out about the Union Metal line of steel boxes, skids and pallets. Write The Union Metal Manufacturing Company, Canton 5, Ohio.

UNION METAL
*Materials Handling Equipment*

▲ Mention Item NED-4214 when writing ▲

*Immediate Delivery*
FROM STOCK
GREAVES-SILENT BAKELITE GEARS

No waiting when you order Greaves Silent Bakelite Gears. • We have them in stock NOW! • Your order will go forward immediately. • You'll appreciate the silent operation and added smoothness provided by Greaves Silent Bakelite Gears. • You'll marvel at their great strength to carry big power loads . . . their remarkable ability to successfully operate completely submerged in water. • You'll welcome their low cost. • No metal reinforcements required. • Save Time . . . Money . . . Labor!

***We also make silent gears of rawhide and Fabriol.***

Write for Circular.

FOR CONCERNS CUTTING THEIR OWN GEARS, WE CAN MAKE IMMEDIATE DELIVERY ON BLANKS SAWED TO SPECIFIED DIAMETER AND FACE

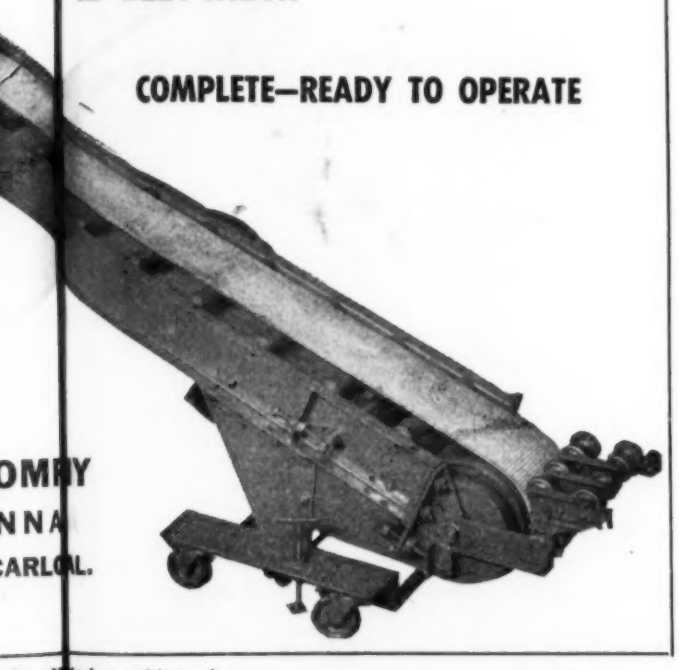
*Greaves* MACHINE TOOL CO.
2009-39 EASTERN AVENUE
CINCINNATI, OHIO

▲ Mention Item NED-4213 when writing ▲



MATHEWS
PORTABLE BELT CONVEYERS
10'-0" -16'-0" -10'-0" LONG
12" BELT WIDTH

COMPLETE—READY TO OPERATE



OMERY
NNA
CARLOL.

▲ Item N when writing ▲



PIG OPERATIONS

ipm

Cut
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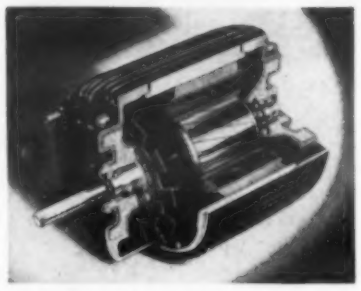
Roll-Over Box com-
ly revolved by fork
—strap dumped into
Pockets are welded
Box for receiving
ks of the lift truck.

TA
quip

on Item N when writing ▲

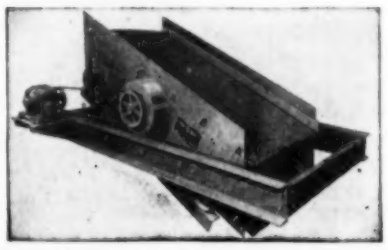

## SMALL MOTOR



Designed for continuous fan duty at 1500 revolutions per minute, this 1/20-horsepower Micromotor is of four-pole shaded pole construction and is totally enclosed. Motor has 2 square inches of bearing surface with individually fitted bearings spaced 5 inches overall and 6 cubic inches total volume in oil reservoir. Circulating lubrication permits continuous duty in any position. Other features include lubricated silent thrust washers, flush welded precision skewed rotor, humidity and oil resistant windings, controlled end play, die-cast machined frame and fin-line functional design with 198 square inches of cooling surface. Made by **Redmond Co.**, Redmond Sq., Owosso, Mich.

▲ Mention Item **NED-4216** when writing ▲

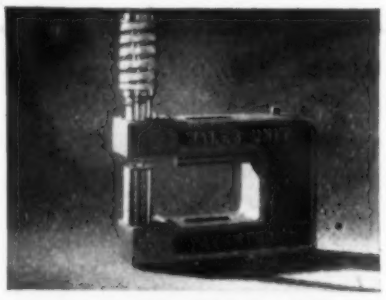
## VIBRATING SCREEN



Imparting concentric or circular vibrating motion to all points of screening surfaces, CA Concentric-Action vibrating screen is suitable for sizing large variety of materials. Unit is available as inclined floor mounted or spring and cable suspended model with balanced two-bearing vibrator mechanism. Types include double or triple deck units in sizes ranging from 3 x 8 feet to 6 x 14 feet. Single deck screens can be obtained by removing lower deck of standard double deck screen. Features include maximum amplitude at high speeds, unobstructed screening surface, true circle vibrating movement, controlled screen cloth tension, minimum abnormal vibration through critical ranges in starting and stopping, minimum starting torque and simple service and inspection. Made by **Link-Belt Co.**, Dept. NED, 307 N. Michigan Ave., Chicago 1, Ill.

▲ Mention Item **NED-4217** when writing ▲

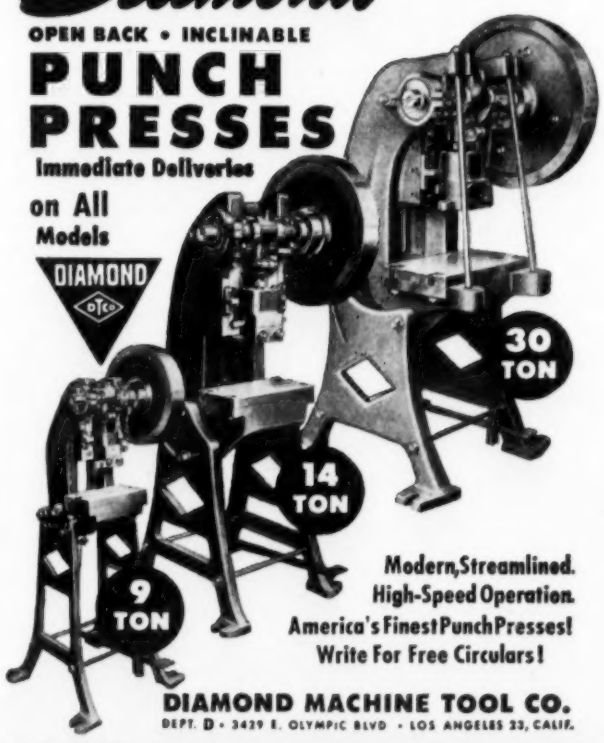
## HOLE PUNCHING DEVICE



Capable of punching holes in mild steel up to ¼-inch in thickness, this heavy duty type CJ hole punching device has pedestal die that permits punching of angles and channels as well as flat sheets. Setups are made on T-slotted plates or templates for stamping presses and press brakes. Units are available in three holder widths with maximum punch diameter of ⅞-inch. Press ram requires only one adjustment regardless of how many hole punching patterns are placed in operation because of uniform shut-height of units. Made by **Wales-Strippit Corp.**, 363 Payne Ave., North Tonawanda, N. Y.

▲ Mention Item **NED-4218** when writing ▲


*Diamond*
OPEN BACK • INCLINABLE
PUNCH PRESSES
Immediate Deliveries on All Models



DIAMOND
30 TON
14 TON
9 TON

Modern, Streamlined. High-Speed Operation. America's Finest Punch Presses! Write For Free Circulars!

DIAMOND MACHINE TOOL CO.
DEPT. D • 3429 E. OLYMPIC BLVD • LOS ANGELES 23, CALIF.

MANUFACTURERS of the DIAMOND LINE of PRECISION MACHINE TOOLS and ACCESSORIES

▲ Mention Item NED-4219 when writing ▲



modernize with these modern lathes

TRB S-56

SHELDON

The modern way is the profitable way . . . with the new lighter, handier, large capacity small lathes that pay a profit from the first job and continue to pay every day. With 11¼" swing and a 1⅜" hole thru the spindle the SHELDON TRB-S56 will handle the great bulk of every day turning, leaving the more cumbersome and costly lathes for the occasional really big work.

The TRB-S56 is extremely accurate with "Zero Precision" tapered roller spindle bearings that make this accuracy permanent. It has double V-belts to the spindle and will take a healthy chip without power loss or slippage. It will do the closest tolerance tool room work, stand up on a tough production run, or handle the miscellaneous tasks of the maintenance department easily, accurately and profitably. It's a modern lathe you should know.

*Write for Bulletin TRB-S56*

SHELDON MACHINE CO. Inc.
*Manufacturers of Sheldon Precision Lathes • Milling Machines • Shapers*
4215 N. KNOX AVENUE • CHICAGO 41, ILLINOIS, U. S. A.

▲ Mention Item NED-4220 when writing ▲



MASTERCRAFT
ROTARY SLIDE MILLING TABLE

On the lathe face plate, miller table, or drill press are countless jobs more easily and quickly performed with a MASTERCRAFT Rotary Slide Milling Table. Drilling guesswork with the use of dividers, scale or centerpunch for the precision spacing of holes is eliminated by the micrometer dials. Clamped to the lathe face plate, the table with its compound slides permits work to be set over for precision boring and turning. As a miller auxiliary, it is valuable for jobs requiring rotary movement of the work table for angular indexing. Now manufactured in Series 700 and 800 to cover a wide range of service for all industry. Available for immediate shipment.

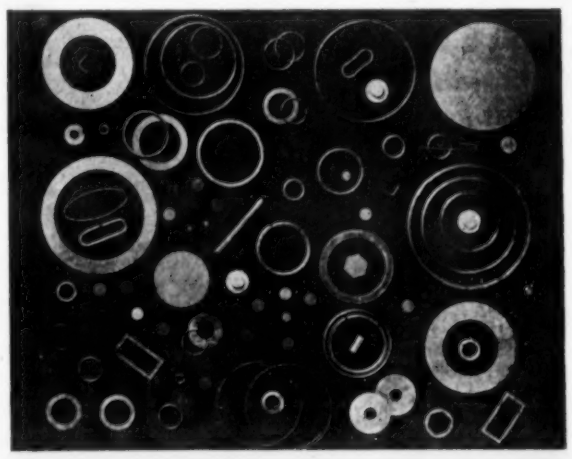
F & M Sales Co.
1054 Cahuenga Boulevard, Hollywood 38, Calif.

▲ Mention Item NED-4221 when writing ▲



KRE-CO PREPLACED BRAZING ALLOYS LOWER JOINING COSTS

For speedier production and leak-tight joints stronger than the parent metal. Made from Easy-Flo, Sil Fos, Copper, Phos Copper, Bronze Soft Solder and Aluminum in rings, disks, flat washers, stampings, and special shapes and sizes to meet all requirements. Speedy deliveries in any quantity. Interesting quotations. Tell us to present facts and figures to lower your brazing costs.



CHARLES W. KRIEG COMPANY
48-60 Dickerson St. - HUmboldt 5-2000 - Newark 4, New Jersey

▲ Mention Item NED-4222 when writing ▲

**LOW-COST VOLTAGE REGULATION**

*for feeders handling up to 120 kva*

Here is an induction regulator that is ideal for maintaining constant voltage on long secondary feeders of small and medium capacity. Particularly suited to small plants and large office and apartment buildings. Keeps illumination at normal levels where lighting and widely varying power loads are supplied by common feeders.

Available in six kva ratings and for 120 to 600 volts. Will provide 10 per cent regulation, raise and lower, on circuits handling 12 to 120 kva. Fully automatic. Dry-type, natural-draft ventilated—they can be installed indoors without vaults.

Write for Bulletin GEA-3057B. *Apparatus Department, General Electric Co., Schenectady 5, N. Y.*

*Type AIRS induction regulator, typical of size 3.6 kva and smaller*

**GENERAL ELECTRIC**

404-52

▲ Mention Item NED-4223 when writing ▲



**YOUR INDEX TO PROCESS EFFICIENCY**

*with our compliments*

This is our new, general catalog W1800, "Specification Index for Bristol Automatic Controlling, Recording and Indicating Instruments." It contains 24 pages of condensed information telling how Bristol instruments promote efficiency in industrial processes. Illustrations show basic methods of applying various types of instruments. If you use, or contemplate using instruments, we'll gladly send you a copy without obligation.

**THE BRISTOL COMPANY**
108 Bristol Road, Waterbury 91, Connecticut

▲ Mention Item NED-4224 when writing ▲



**You can HEAR HERE**

**—a zone of quiet for telephoning**

Noisy factory offices may mean confused telephone conversations and the possibility of costly mistakes.

Burgess "Scout" Model 601 Acousti-Booth solves this problem by providing a quiet place in which to hear, regardless of noisy surroundings. When you listen to the telephone inside this booth, you are protected by a "zone of quiet," provided by the Burgess acoustic construction. Model 601 Acousti-Booth and others, both wall type and full-length booths, shut out unwanted noise. Send today for free descriptive folder.

Full-length Acousti-Booths available of steel or plywood construction.

**Write for FREE Bulletin!**

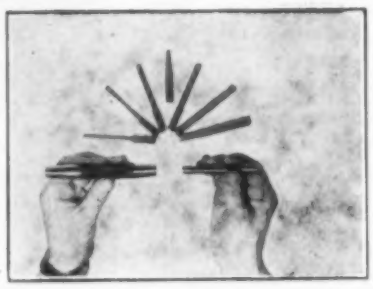
Burgess-Manning Company
743-C East Park Avenue, Libertyville, Illinois

Please send illustrated booklet describing the Burgess Acousti-Booth.

NAME .....
FIRM NAME .....
STREEET-CITY .....

▲ Mention Item NED-4225 when writing ▲


## PIN PUNCH SET



Furnished with single knurled hammer head or handle, Quik-Set pin punch set is available in straight or tapered styles. Seven pin punches range from ⅛ to ½-inch in diameter and center punch is included. Overall length of standard inserts is 3½ inches. Longer or shorter sets are available for individual requirements. Punches are enclosed in snap-fastening leatherette case that can be folded easily. Made by **H. P. Miller Mfg.**, 832 N. Fourteenth St., Milwaukee 3, Wis.

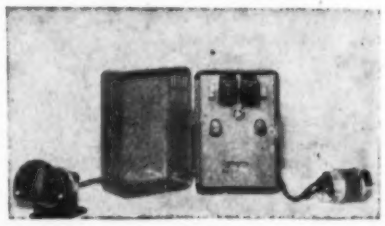
▲ Mention Item NED-4226 when writing ▲

## SWITCH AUXILIARY ACTUATOR

Series of removable and interchangeable actuators for Unimax snapaction switches (*Item NED-1644, March '47*) permits adaptation of basic switch to various actuating requirements. Actuators are applicable to all Unimax switches and can be removed, reinstalled or interchanged without disassembling switch. They are mounted on stainless steel plates and uniform relationship is established between actuators and switch-operating button by fixed dimensions in mounting plate of phenolic plastic housing. Mounting plate is affixed to housing by means of self-tapping screws, thus minimizing weakening of switch case. Minimum number of actuators need be carried in stock. Standard ratings for basic switch are 15 amperes at 125 volts or 5 amperes at 250 volts, ½-horsepower, 60 cycles. All units are single pole double throw type. Made by **Unimax Switch Corp.**, 460 W. 34th St., New York 1, N. Y.

▲ Mention Item NED-4227 when writing ▲

## POSITION CONTROL SYSTEM

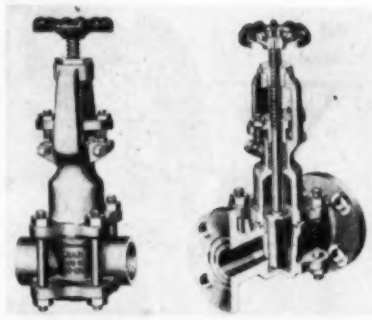


Electronic positioning control system will perform such operations as actuating inaccessible dampers from control stations on floor, positioning heavy work in machine tools and opening, closing and adjusting to intermediate points valves and gates from a single co-ordinated control desk. Master control station can be located any desired place because it is connected to control panel by only three leads. Dial is set in manner similar to that of radio, and motor moves load to new position corresponding to that indicated by dial setting.

System can be used on drives up to 1½ horsepower in general and on many drives over this rating under certain conditions. Master control station, follow-up device and electronic control panel comprise entire system. Driving motor is not included because any reversing alternating or direct current motor that can handle load is acceptable. Control panel is enclosed in NEMA type I case and is hinged to swing out for servicing and inspection. Made by **General Electric Co.**, Schenectady 5, N. Y.

▲ Mention Item NED-4228 when writing ▲

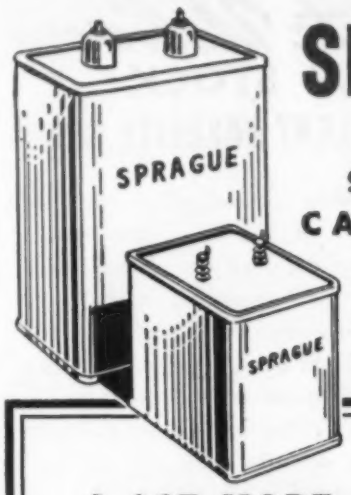
## PLUG GATE VALVES



Line of corrosion resistant plug gate valves has advantage of straight through flow in wide open position and yet is suitable for throttling service at both high and low velocities. Of outside screw and yoke design, valves have bolted bonnet joints and can be furnished with either screwed or flanged ends in sizes from ½ to 2 inches. They are regularly furnished in either 18-8 stainless steel or Monel metal, and for specific corrosive conditions can be made in various other alloys to meet specifications.

Valves are not subject to sticking in closed position even though they are closed while hot and opened when cold. They have maximum discharge equal to that of wedge gate valves and about twice that of globe valves. Resistance to cutting action of fluid when in throttled position is equal to that of conventional plug globe valves. There is no tendency to galling. Made by **Crane Co.**, 836 S. Michigan Ave., Chicago 5, Ill.

▲ Mention Item NED-4229 when writing ▲


**SPRAGUE**

**ENERGY STORAGE CAPACITORS**

**GREATER ECONOMY and EFFICIENCY for FLASH WELDING**

**A LOT MORE CAPACITY IN A LOT LESS SPACE**

Now — thanks to the famous *VITAMIN Q impregnant — much smaller, lighter weight and less costly capacitors assure outstanding efficiency for flash welding equipment and similar time control circuits. Developed in conjunction with the unique Sprague PHOTOFLASH Capacitors, these new units have scored remarkable performance records in the most exacting applications. Further information on request.

**SPRAGUE ELECTRIC CO., North Adams, Mass.**

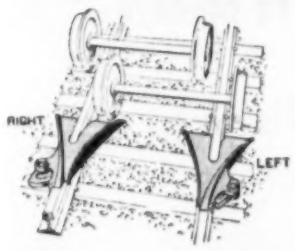
*Trademark Reg. U. S. Pat. Off.

▲ Mention Item NED-4230 when writing ▲



**World's Quickest Way to Rerail Cars and Locomotives**

**"Anchor" Rerailers Get 'Em Back on the Tracks, Saving Time, Labor, Money**




● This is the quick, efficient way to get derailed cars and locomotives back into productive service. No other rerailer has the patented, scientifically-designed features of the "Anchor" Rerailer.

Smashed hands, strained backs and often fatal accidents are eliminated when "Anchor" Rerailers are used. Safety Inspectors and Engineers highly recommend their use. Made of special high carbon steel for durability and long life.

**How Anchor Rerailers Work.** "Anchor" rerailers are used in pairs, and will retrack wheels from either or both sides of rail at same time. Each Rerailer straddles the rail, and the narrow end on top of the rail. The derailed wheel comes up the gradual slope, and is forced back on to the rail by the guiding grooves and ridges. Can be used anywhere on the track. The "Anchor" Rerailer is the only one that has a self-contained lock.

| Size of Rerailer | For Use on Rails as Follows: | Locomotive or Car Capacity | Price Per Pair |
|---|---|---|---|
| No. 2 | 16 lbs. to 40 lbs. | 10 tons | 32.50 |
| No. 3 | 30 lbs. to 60 lbs. | 15 tons | 37.50 |
| No. 4 | 50 lbs. to 75 lbs. | 40 tons | 52.50 |
| No. 5 | 70 lbs. to 100 lbs. | 100 tons | 80.00 |

F. O. B. Bowerston, Ohio

**Send Order Now! Immediate Delivery. Complete Satisfaction. Guaranteed! Free Descriptive Literature If Desired!**

**THE MINING SAFETY DEVICE CO.**
DEPT. NE, BOWERSTON, OHIO

▲ Mention Item NED-4231 when writing ▲



**Felt**

**Softens Some of the Hardest Problems!**

One process makes a finished felt soft and fluffy as a summer cloud. Another makes it tougher than a fifty-cent steak. And still others can give felt varying specified degrees of hardness — or softness — in the wide range between.

Cut felts do not ravel, shred or fray. Ordinarily, they're ready for assembly when shaped by a single, elementary operation.

Felt is rugged and lasting — not harmed by sun, moisture, heat or cold — ageless — can be used freely exposed to oil and gasoline.

It can be punched and chiseled, turned and scarfed, die-punched and skived, ground or otherwise tooled by simple and common methods.

REMEMBER — The Felters Company *makes* the felt for the parts it cuts. The advantage to you of this start-to-finish supervision is reflected in the quality, uniformity and accuracy of every part that leaves The Felters Company mills.

To assist you in ordering parts with sure, quick ease, we've prepared the Felters Precision Cut Felt Parts Manual. You can have your copy simply by dropping us a card, so do it — *now!*

**THE FELTERS COMPANY**
210-M SOUTH STREET, BOSTON 11, MASSACHUSETTS

▲ Mention Item NED-4232 when writing ▲

AIR HYDRAULIC PRESS
This new Air Hydraulic Unit delivers to the ram the highest efficiency yet obtainable in such units.

BRYANT
OFFERS TWO PRODUCTS THAT
PRODUCE AMAZING EFFICIENCY

PRESS-VISE
This is a production vise . . . weld positioner . . . two ton press. Diversified . . . fast, with toe-touch control.
The production tool to fit perfectly into your production.

BPC BRYANT PRODUCTS CO.
JACKSON • MICHIGAN
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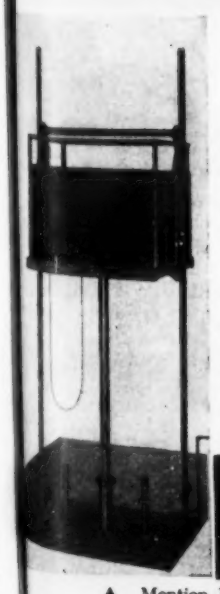
38 TON WALL MOVED
*in half the usual time*
•
HEIN-WERNER
HYDRAULIC JACKS
have many applications
in *YOUR PLANT!*

If you like to figure out short-cuts, devise easier ways of doing things, or develop "special equipment" which will enable a factory to turn out better work in less time, you'll find many applications for Hein-Werner Hydraulic Jacks. They're great for many different moving, pressing, bending, pushing or lifting operations.

Made in models of 1½, 3, 5, 8, 12, 20, 30, 50 and 100 tons capacity, in quantities insuring prompt delivery to your plant. For details, consult your nearest industrial supply distributor, or write us.

HEIN-WERNER CORPORATION
WAUKESHA, WISCONSIN
▲ Mention Item NED-4234 when writing ▲

*Using Power Vehicles for Elevator Loading?*



**That calls for an elevator with rugged construction and accurate landing stops**

Oildraulic Elevators work perfectly with material handling methods in use today. Even with heaviest loads they operate smoothly and stop at floor landings accurately. Every Oildraulic is built to take hard wear, too.

Other advantages: Requires no penthouse or heavy load-bearing shaftway structure . . . powerful hydraulic jack **pushes** load up from below. Gives lowest cost operation for 2, 3 or 4-story service. Car sizes and capacities as required. For free copy of Catalog RE-301, write ROTARY LIFT CO., 1019 Kansas, Memphis 2, Tenn.

Rotary
OILDRAULIC ELEVATORS
The Elevator That's PUSHED Up
▲ Mention Item NED-4235 when writing ▲


## WELDING TORCH

Designed for use with inert-gas-shielded arc welding of stainless steel, aluminum, Monel, Inconel and magnesium, Heliarc torch features water cooling, lightweight flexible power cable, gas cup made of nonconducting material and easily adjusted tungsten electrode. Torch head and handle are fully insulated. Water cooling makes possible use of unusually light and flexible power cable capable of carrying 250 amperes. Cooling water flows through torch and handle and out around power supply cable. Safety fuse is inserted in water discharge line to shut off power if water stops flowing or if torch becomes overheated. Straight or reverse polarity direct current or high frequency stabilized alternating current can be used. Ceramic gas cup directs flow of gas to weld area, blanketing electrode, arc and molten metal from atmosphere as well as preventing accidental arcing to adjacent parts of workpiece or jig. Electrode extension with removable cap permits easy adjustment of virtually nonconsumable tungsten electrode. Made by **Linde Air Products Co.**, 30 E. 42nd St., New York 17, N. Y.

▲ Mention Item **NED-4236** when writing ▲

## DIE CASTING MACHINE

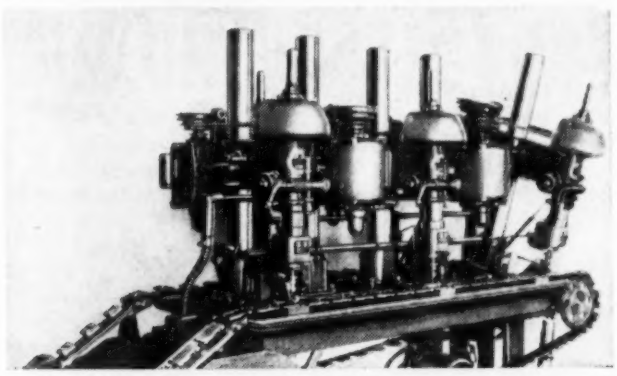
Designed to produce zinc, tin and lead die castings automatically, this model No. 4 machine has up to 100-cubic inch injection capacity. Provision is made for manual operation

of any single function of die casting cycle. High rate of production is provided for by rapid closing and opening of dies at approximately 750 feet per minute with momentary slow down just before die closes.

Distance between platen and bolster plates is adjustable from 9 to 23 inches by means of lever die adjustment mechanism which can be either hand or power operated. Platen is positioned by turning die opening adjustment lever. Maximum daylight opening is 39 inches. Casting knockout is automatic and hydraulically operated. Injection pressure is supplied by heavy duty accumulator.

Opening of dies can be adjusted from 6 to 16 inches by positioning cam in trip mechanism. Injection pressures are variable from 1500 to 6000 pounds per square inch and die locking pressure is approximately 500 tons. Dual melting pots are provided. One pot preheats and the other is injection pot. Temperature control is accurate to within 4 F. All moving parts are automatically lubricated. Machine requires floor space measuring 21½ by 6½ feet for operation. Made by **Wickes Brothers**, 515 N. Washington Ave., Saginaw, Mich.

▲ Mention Item **NED-4237** when writing ▲

Five Walker-Turner 15" Drill Units with Pond conveyor set-up.

TAPPING PRODUCTION INCREASES 400% WITH STANDARD WALKER-TURNER 15" DRILL HEADS

This set-up for tapping, designed by Pond Engineering Co., Springfield, Mass., and using standard Walker-Turner 15" Drill Heads showed "*better than a 400% increase in production over conventional methods.*"

Two pieces are handled simultaneously, one having three holes to be tapped, the other two. The operator places the pieces on the conveyor plates. The Pond Conveyor and the Walker-Turner Drill Presses do the rest automatically, and finished pieces drop into containers at the other end. Walker-Turner Heads were chosen for this set-up because the Pond engineers wanted a light-weight, compact unit with extreme flexibility as to mounting, speeds and control. The unique design, rugged construction and low investment cost were other factors in the decision.

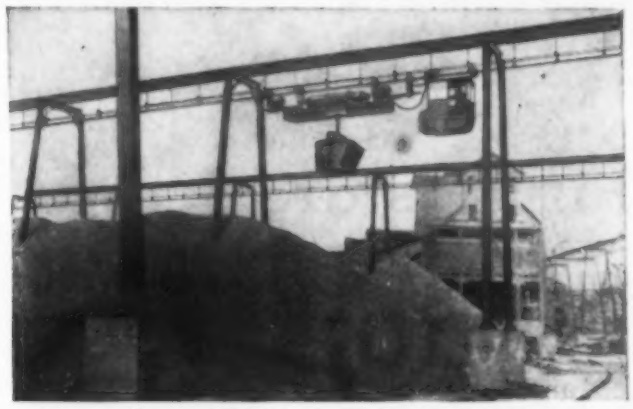
TWENTY-FIFTH YEAR 1922 1947

SOLD ONLY BY AUTHORIZED INDUSTRIAL MACHINERY DISTRIBUTORS

163

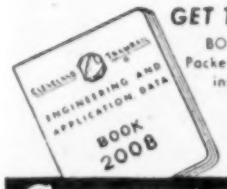
Walker-Turner COMPANY, INC. PLAINFIELD, N.J. U.S.A.
MACHINE TOOLS
DRILL PRESSES—HAND AND POWER FEED • RADIAL DRILLS • RADIAL SAWS
METAL-CUTTING BAND SAWS • POLISHING LATHES • FLEXIBLE SHAFT MACHINES
RADIAL CUT OFF MACHINES FOR METAL • MOTORS • BELT & DISC SURFACERS
▲ Mention Item NED-4238 when writing ▲





*Speeds* STONE ACROSS RIVER
*Increases* STORAGE CAPACITY

Mud, rainstorms or deep snow do not hamper the transportation of crushed stone across a river to the storage area with this cab-operated system. This type equipment provides efficient year-round handling of sand, gravel, coal, etc. and enables high piling, thereby greatly increasing storage yard capacity.

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BOOK No. 2008
Packed with valuable information..

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6607 East 285th St. Wickliffe, Ohio

CLEVELAND TRAMRAIL
▲ Mention Item NED-4239 when writing ▲

OUR BEST DISC
. . . and YOURS
SPEED-WET*
METALITE*

ALL-RESIN BONDING
ALL-FIBRE BACKING
ALL-DURABONDED COATING
ALL-OUT PERFORMANCE

To a veteran industrial disc user, the three improvements which distinguish the new Speed-wet Metalite Fibre Disc mean substantially increased grinding performance. All-resin bonding for instance, yields resistance to heat and loading. The all-fibre backing contributes spring-like flexural strength. The Durabonded* coating provides stamina and rugged grit anchorage. Taken all together, this three-fold improvement yields a disc of vastly improved cutting speed, finishing properties and long life.

Ask your Industrial Supply Distributor to furnish Speed-wet Metalite Fibre Discs next order.

* *Reg. U. S. Pat. Off.*

BEHR-MANNING · TROY, N. Y.
(DIVISION OF NORTON COMPANY)
▲ Mention Item NED-4240 when writing ▲

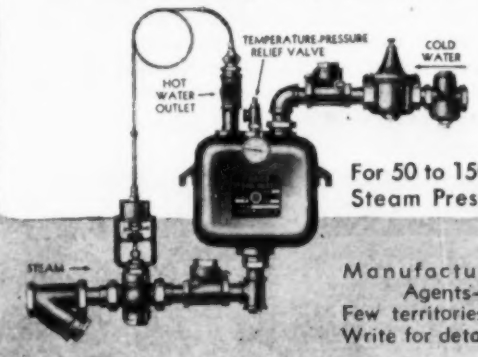


*Packaged* HOT WATER
40% MORE HOT WATER PER POUND OF STEAM

O'Brien Steam-Mixer Water Heater . . . 600 to 5500 gallons per hour. *Practically 100% efficient.* Compact, easy to install at point of use. Saves heat, water and man-hours. Quiet muffler-diffuser. Completely automatic, with temperature-pressure safety relief valve. All bronze, no rust, no corrosion.

**Write for Bulletin SM-4**

O'BRIEN STEAM SPECIALTY CO., INC.
Established 1920
321 Heffernan Bldg. Syracuse 2, N. Y.




For 50 to 150 lb. Steam Pressure

Manufacturers' Agents-
Few territories open.
Write for details.

▲ Mention Item NED-4241 when writing ▲

# Fittings are Scarce

***save 7 per trap with***

**SUPER-SILVERTOPS**

One way to conserve those "more-precious-than-gold" pipe fittings—make them go farther—is by simplifying with Super-Silvertop Steam Traps.

As you can see in the photos at the right, a Super-Silvertop uses many less fittings than are needed on an ordinary inverted bucket trap. Super-Silvertop gives you this saving because of the built-in U-tube—not in just a few sizes, but in all sizes of traps, and without the weakness of cored passages or split (pierced) gaskets.

Do you want to save fittings and still get efficient trapping? Then investigate Super-Silvertop. Complete details are included in the helpful book *"How To Choose a Steam Trap"*—send for your free copy.

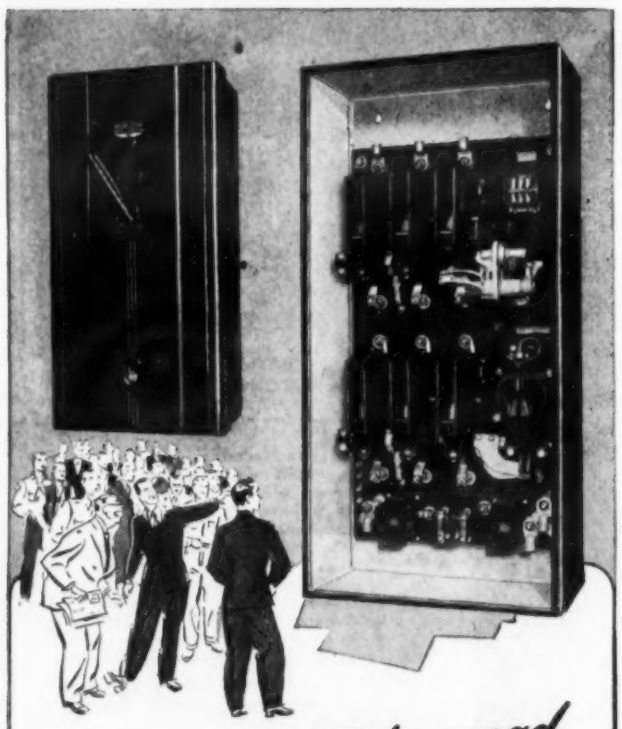
**THE V. D. ANDERSON CO.**
**1932 West 96th Street • Cleveland 2, Ohio**

Super-Silvertop showing one nipple and one union needed.

Conventional trap using seven fittings and two unions.

▲ Mention Item NED-4242 when writing ▲





*There's a Widespread trend to* **CUTLER-HAMMER COMBINATION STARTERS**

More and more of the men of industry are discovering the advantages of Cutler-Hammer Combination Starters . . . time-saving, trouble-saving units that combine both motor starter and disconnect switch in one convenient unit. Truly alert and experienced buyers insist on Cutler-Hammer to insure the advantages of an engineering leadership recognized the world over and which has resulted in such important achievements as vertical contacts, the foolproof eutectic alloy overload relay and many others.

Cutler-Hammer Combination Starters are *more convenient*—easy to install and service. They are *more accessible*—for the units are together and can be exposed at the same time. They are *safer*—the case can't be opened unless the switch is in the "off" position. They are *more economical*—one enclosure instead of two, and both units are wired and installed at the same time and with no extra effort. Look to C-H Bul. 9589 A.C. Combination Starters up to 200 h.p. to give you these features. Assure yourself of better starter performance by insisting on Cutler-Hammer for your very next starter installation. . . . CUTLER-HAMMER, Inc., 1377 St. Paul Ave., Milwaukee 1, Wisconsin. *Associate:* Canadian Cutler-Hammer, Ltd., Toronto Ont.

CUTLER-HAMMER
MOTOR CONTROL
C-H

▲ Mention Item NED-4243 when writing ▲


## FLOATING TOOL HOLDERS

Complete line of steel precision floating tool holders is available in shank diameters of ⅝, ¾, 1 and 1¼ inches. Units provide ready means for aligning drills, reamers and similar tools with work. Cutting tool is held in head of holder either directly or by means of bushing. One hinged shoe bushing blank is furnished with each floating holder. Made by **Barnaby Mfg. & Tool Co.**, 72 Knowlton St., Bridgeport 8, Conn.

▲ Mention Item NED-4244 when writing ▲

## SLITTING SHEAR

Capable of making straight, curved or angle cuts, this model No. S-3 slitting shear is equipped with blades of tempered and drawn tool steel which are adjustable for wear. In mild steel, unit has slitting capacity of ⅛-inch, trimming capacity of 7/16-inch and bar capacity of ¼ x 2 inches. Shear is manually operated and method of power transmission insures troublefree operation. Shoe at back of upper blade holder is adjustable.

Cuts can be made accurately without waste or distortion. Operating handle is 30 inches in length and overall weight of shear is 30 pounds. Made by **Beverly Shear Mfg. Co.**, Dept. N., 3004 W. 111th St., Chicago 43, Ill.

▲ Mention Item NED-4245 when writing ▲

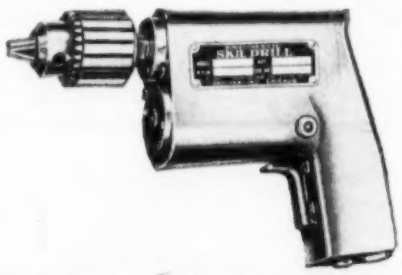
## STEEL PARTS BOX

Available in standard gages and sizes to fit all sizes of shelving, steel shelf boxes will speed handling of materials and storage of bolts, nuts, screws or small bulk parts in stockrooms and assembly departments. Boxes have plain straight sides which allow compact arrangement and maximum utilization of small storage spaces. Label holders on front of each box facilitate identification of contents. Made by **Bay Inc.**, 3009 N. Sixteenth St., Philadelphia 32, Pa.

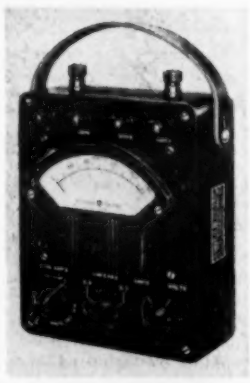
▲ Mention Item NED-4246 when writing ▲

## PNEUMATIC HAND TOOL

Designed for production use, line of pneumatic hand Skil tools includes drills, screwdrivers and nut runners. Tools weigh up to 2¾ pounds dependeing on model, and no tool is longer than 7¼ inches. They are equipped with six ball bearings and have heat treated alloy steel gears and shafts. Illustrated pnuematic drill has speed range of from 800 to 10,500 revolutions per minute. Optional speeds of 800, 1300 and 2100 revolutions per minute are available for nut runners and screwdrivers. Latter units also have ball rolling adjustable clutch. Made by **Skilsaw, Inc.**, 5027 Elston Ave., Chicago 30, Ill.



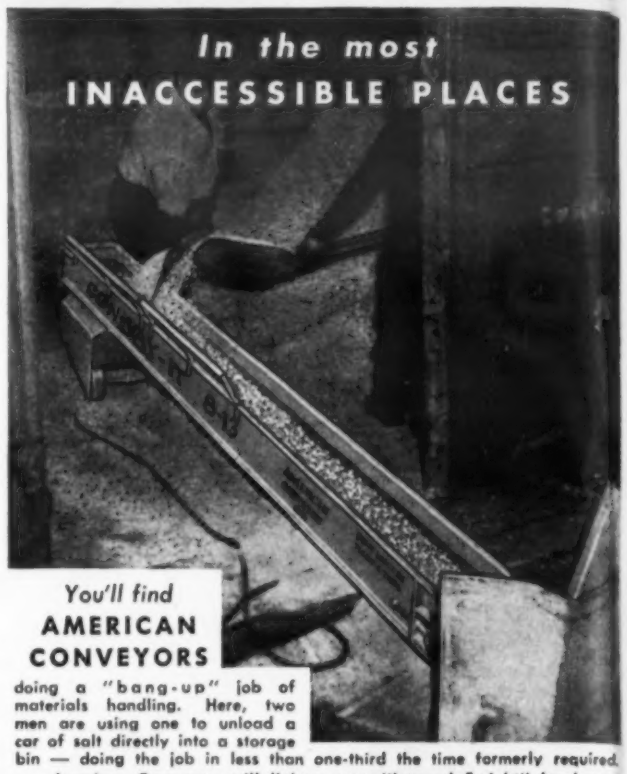
## ELECTRICAL TEST SET



Serving as alternating current load visualizer and low cost analyzer for use on single-phase and balanced polyphase systems, this model AF-1 electrical test set can be used with calculator furnished to determine watts, vars, volt-amperes and power factor for load surveys, induction motor tests and power factor checks on lighting circuits. Unit can be used as standard 0 to 2.5 or 5-ampere ammeter and 0 to 150, 300 or 600-volt voltmeter.

Instrument operation is controlled by three selector knobs which are placed at end opposite connection terminals. External current circuit is not interrupted by operation of control knobs. Unit is housed in Textolite case. Potential terminals, instrument mechanism and control switches are mounted on top plate. Binding posts are constructed to prevent loosening of connection screw. Unit is magnetically damped, fully shielded and equipped with external zero set. Made by **General Electric Co.**, Schenectady 5, N. Y.

▲ Mention Item NED-4248 when writing ▲

*In the most* **INACCESSIBLE PLACES**

*You'll find* **AMERICAN CONVEYORS** doing a "bang-up" job of materials handling. Here, two men are using one to unload a car of salt directly into a storage bin — doing the job in less than one-third the time formerly required.

American Conveyors will lighten your "Internal Freight" burden — will save you time, effort, space . . . and MONEY.

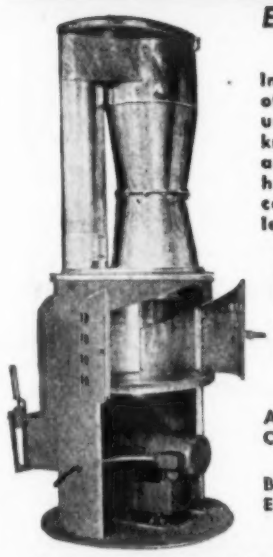
Write TODAY for information.

AMERICAN CONVEYOR COMPANY
1113 W. Adams St. • Chicago 7, Ill.

▲ Mention Item NED-4249 when writing ▲



**SELF-CONTAINED** *Dust Control Unit . . .*



***Engineered by KIRK & BLUM***

Into the development and production of this self-contained dust control unit have gone all of the engineering knowledge, soundness of design and mechanical ingenuity which have made Kirk & Blum central dust control installations the choice of leading plants throughout the nation.

This unit will handle sawdust and shavings from woodworking machines; grinding, buffing and polishing dirt from metal working machines and all similar dust sources.

***Exclusive Features***

Air volume of 900 CFM at 2" suction
Capacity for four 3", two 4", or one 6" pipe connections
Big 4 cu. ft. storage compartment
Easy, convenient, semi-automatic cleaning operation

For complete description and specifications, write to The Kirk & Blum Mfg. Co., 2813 Spring Grove Ave., Cincinnati 25, Ohio

**KIRK AND BLUM**
*Specialists in Dust and Fume Control*

▲ Mention Item NED-4250 when writing ▲

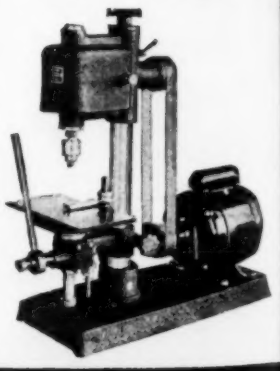


**TAP BREAKAGE** *Haunt You?*

Banish the spectre! Install the Hamilton Super Sensitive Tapping Machine, a specialist in precision tapping of small holes (from the smallest and finest tap to 10-32 inclusive).

Patented power transmission and adjustable stops permit tapping of blind holes to the very bottom without tap breakage. Spindle idles in reverse while tap is being centered. Pressure to feed lever changes spindle rotation. Release of pressure reverses and withdraws tap.

Get complete description and specifications. Write for Bulletin T-47.



THE *Hamilton* TOOL COMPANY
SUPER SENSITIVE DRILLING MACHINES · TAPPING MACHINES · PORTELVATORS
901 HANOVER STREET • HAMILTON • OHIO • U • S • A

▲ Mention Item NED-4251 when writing ▲

## "SOCKET WRENCH" KIT

These rugged, handy Kits contain 6 and 12 pt. hex sockets . . . precision-made of high-grade steel alloy . . . for most all hex nuts and bolts from #4 to ½". All sockets fit into convenient, tread-grip, hollow, red plastic handles that are non-conductors of electricity and corrosion-resistant. Swivel head with square drive . . . locks securely in any one of five positions . . . enables you to reach "hard-to-get-to" places more easily, permits the application of greater leverage.

Available in two sizes #75 and #100 . . . Obtainable at Industrial Distributors and Hardware Dealers throughout the country. If there is no Supplier near you, or he is sold out, send us his name, along with yours, and you will be taken care of promptly.

An ideal gift, premium or prize

Kits: Pats. Pend.

Over 44 Years in Business

**STANDARD PRESSED STEEL CO.**

JENKINTOWN, PA. BOX 581

BOSTON • CHICAGO • DETROIT • INDIANAPOLIS • ST. LOUIS • SAN FRANCISCO

▲ Mention Item NED-4252 when writing ▲



## Here They Are In One Handy Box . . .

*The 16 Most Popular Shapes and Sizes of Norton Mounted Points*

HANDY to buy, handy to use, handy to keep—that's the Norton No. 16 Mounted Point Assortment. It's made up of one each of the sixteen sizes and shapes which Norton sales records show are most in demand. They're packaged in an ingenious box which brings them to you safely, serves as a handy holder while they are in use and a sturdy container when they are not.

Order one or more No. 16 Mounted Point Assortments from your Norton distributor.

**NORTON COMPANY, Worcester 6, Mass.**

▲ Mention Item NED-4253 when writing ▲

## JONES TERMINAL PANELS

Our large variety of Terminals plus special equipment enable us to give unusual service on special Terminal Panels. Send us a print or description of your requirements and we will promptly submit prices. Hundreds of standard Terminal Strips listed in Catalog No. 14. Send for your copy today.

HOWARD B. JONES DIVISION
CINCH MFG. CORP.
2460 W. GEORGE ST. CHICAGO 18

▲ Mention Item NED-4254 when writing ▲


## FORK LIFT TRUCK

Rated capacity of this model F Mobilift fork lift truck is 3000 pounds. Unit has 15-inch load center and therefore will handle maximum loads or odd shaped materials with ease. Twenty-horsepower three-cylinder air cooled engine supplies power and roller chain lift is available in lifting heights of 68 or 108 inches. No gear shifting is required for truck operation and unit will turn in radius of 61 inches. Overall weight is 4450 pounds. Made by **General Equipment Co.**, 835 S. E. Main St., Portland 17, Ore.

▲ Mention Item NED-4255 when writing ▲

## MOTORIZED VALVE

Adaptable for use on commercial machinery and equipment, heating and air conditioning systems, and heating and cooling coils, this motorized valve provides automatic two-position control of air, gas, oil or water. Globe type valves are made of bronze, either single or double seated and can be supplied in sizes from ½ to 2½ inches for screw end connections. Butterfly valves have iron body, bronze trim and are available in sizes from 1 to 4 inches for either screwed or flanged ends.

Induction type motor develops power drive through worm and spur gear reduction. Limit switches are adjustable. Housing is dusttight and splashproof. Thermostat, pressure switch or similar device is used to actuate control. It is available for operation on 24, 110 or 220-volt alternating current. Made by **Automatic Temperature Control Co.**, 30 E. Logan St., Philadelphia 44, Pa.

▲ Mention Item NED-4256 when writing ▲

## SMALL SOLDERING IRON

Designed for precision soldering operations where space is limited, this lightweight Calrod Midget soldering iron is available with chisel shaped copper tips measuring ¼ and ⅛-inch in diameter. Tool is 8 inches long and weighs 1¾ ounces without cord. It is rated at 25 watts, 6 volts and is used with 115/6-volt insulating transformer. Calrod element is built into tip of iron to within ½-inch of working end. Transformer with four taps for variable heat is also available. Made by **General Electric Co.**, Schenectady 5, N. Y.

▲ Mention Item NED-4257 when writing ▲


## KLIXON PROTECTORS

Built in by the manufacturer of the particular equipment, Klixon Protectors provide a tested and proven combination of a protector matched to the thermal characteristics of the equipment.

Should a motor, transformer, solenoid or variable voltage transformer become overloaded and dangerously hot, the Klixon Protector opens the circuit preventing a possible burnout. The protector provides full protection without limiting safe output. Harmless momentary overloads do not cause nuisance tripouts.

Klixon Protectors are unaffected by shock, motion or vibration. They are available in automatic and manual reset types in a wide range of types and ratings.

Protect your equipment by specifying Klixon Protected motors, transformers, solenoids and variable voltage transformers.

KLIXON

Spencer Thermostat Company, 1907 Forest St., Attleboro, Mass.

▲ Mention Item NED-4258 when writing ▲



## SPRING PRESSES

**THE TAYLOR & FENN CO.** HARTFORD 1, CONN.

▲ Mention Item NED-4259 when writing ▲

5 GOOD REASONS WHY . . .

## JONES & LAMSON GROUND THREAD TANGENT CHASER DIE HEADS

*Produce Better Threads at Lower Cost*

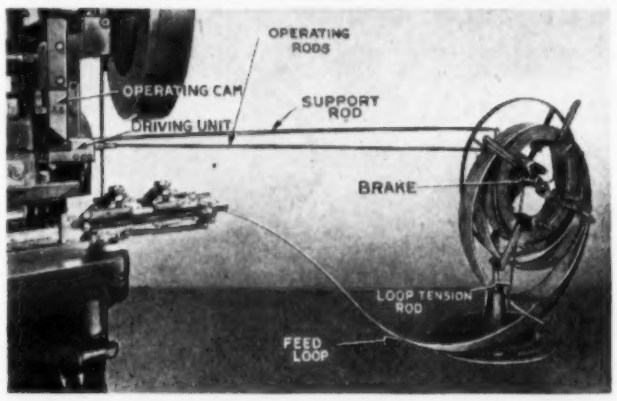
1. They are hardened and ground throughout. The body is lapped on the face and in the dovetail slots. Chaser holder bearing surfaces are lapped into the body.
2. Chasers are guaranteed to produce threads of Class III fit.
3. Exact helix angle is ground into the chasers after hardening.
4. Dies are universal, therefore investment in chaser holders is reduced to a minimum and change-over and set-up are speeded.
5. Chasers are set quickly and easily.

Send for our Catalog No. 151

**JONES & LAMSON MACHINE COMPANY**
SPRINGFIELD, VERMONT, U.S.A.

▲ Mention Item NED-4260 when writing ▲






*Reduce Your Production Costs With*

## DICKERMAN AUTOMATIC STOCK REEL

Insures greater accuracy and increased production. On automatic feeds it frees operator for other work—on hand-fed machines it reduces operator fatigue. New "controlled unreeling" reduces troublesome feed jams and costly die damage. Low initial cost. Actuated by Punch Press through mechanical linkage.

LIMITED QUANTITY AVAILABLE FOR IMMEDIATE DELIVERY

WRITE TODAY for Price and Specifications.

**H. E. DICKERMAN MFG. CO.** 324-74 Albany St. Springfield, Mass.

▲ Mention Item NED-4261 when writing ▲

Learn more about
LYON-Raymond's *New*
HYDRAULIC
**Pallet Lift Truck . . .**

***Streamlined! Lightweight!***

***Check All These Unusual Features . . .***

**FRAME** High strength alloy sheet steel formed into strong box sections.

**AXLES** Heat-treated alloy steel.

**WHEELS** (and other non-structural parts) made from aluminum alloy.

**BEARINGS** Anti-friction bearings used at all important points in lifting mechanism.

**WORKING PARTS** Totally enclosed for better protection.

**WEIGHT** Reduced to a minimum by new design and modern lightweight construction.

This advanced construction fits the Lyon-Raymond Hydraulic Pallet Lift Truck to do jobs with speed and ease never before attained by hand pallet trucks. Write today for complete information that may save you time and money!

**LYON-Raymond Corporation**
607 Madison St., Greene, N. Y.

▲ Mention Item NED-4262 when writing ▲

NEW FACTS

**on industry's multiple-use tool**

This new book, just off the press, will give you helpful information on Rectox, industry's multi-use tool for rectifying and battery charging. It cites new places to use Rectox; new improvements in construction; new benefits for a host of applications. Write today for your copy of B-3626. Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa.

Westinghouse
*Rectox Rectifiers*

J-21384

▲ Mention Item NED-4263 when writing ▲

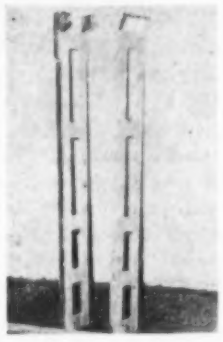
**CLEANS OUT COSTLY DUST POCKETS**

This new self-contained dust collector takes care of dust that would otherwise ruin productivity, quality and profits. It's small enough to be put in any "dust pocket"—yet has proven features of large Pangborn collectors. Minimum piping and installation expense. Pangborn's "CK" is described in Bulletin 910. Address Pangborn Corporation, Hagerstown, Maryland, *world's largest manufacturer of dust control and blast cleaning equipment.*

**Pangborn**
PANGBORN CORPORATION, HAGERSTOWN, MARYLAND

▲ Mention Item NED-4264 when writing ▲

## LIFT TRUCK FORK EXTENSIONS

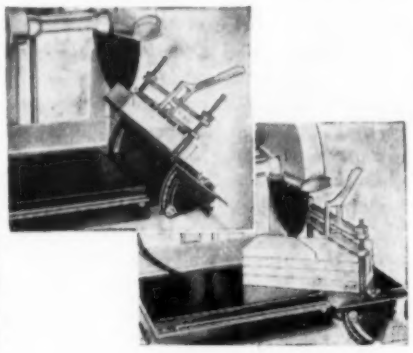


Available in sizes to fit any make, model or capacity industrial fork truck, Autolift fork extensions facilitate handling of large, bulky or awkward loads. Simple couplers permit attachment of extensions to truck forks in a matter of seconds. They are recommended for use in handling long skid loads, lifting crated machinery, and piling knocked-down boxes and crates. Because they are light in weight, extensions are handled easily. Made by **Autolift Accessory & Engineering Co.**, Kingston, Pa.

▲ Mention Item NED-4265 when writing ▲

## MASONRY SAW CLAMP

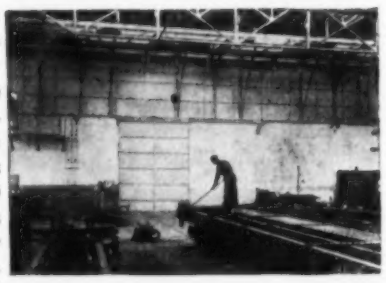
Two styles of this Instant Clamp adjustable Conveyor Cart are available for attachment to five models of Clipper masonry saws. Accessory makes it possible to cut intricate shapes and sizes from brick, tile and firebrick in any thickness up to 5 inches and width to 12 inches. Saw clamp style No. 45 is for attachment to models H and J saws which elevate to 45 degrees and style No. 90 is for models B, C, and E saws which are of nonelevating construction for angles as well as straight cutting.



When attachment is fixed to saw unit, material is placed in cart at desired position and clamp lever is pulled forward to clamp material in place. Units are constructed with steel frame, ball bearing wheels and stainless steel adjusting rods with brass fittings. Made by **Clipper Mfg. Co.**, 2800 Warwick, Kansas City 8, Mo.

▲ Mention Item NED-4266 when writing ▲

## SWING TYPE CRANE DOORS

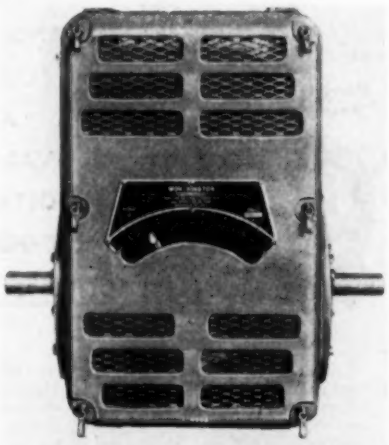


Built in combination with a 14 x 18-foot motorized sliding door which permits passage of crane load and railroad cars, swing type crane door illustrated is 83 feet wide and 10 feet high. Door swings up and open to allow free travel of crane between plant and yard and when closed provides weathered closure which retains heat in building. In operation, lower door slides completely to right where it engages a combination interlock. This unlatches upper door which is then swung up into open position by means of six heavy duty cables. In closing, all operations are reversed.

Positive power closing of large and small swing type crane doors is accomplished by use of powered closing arms. Series of mechanical and electrical interlocks insures that human elements will not interfere with or cause damage to components in proper operation of door. Made by **Fleming Steel Co.**, New Castle, Pa.

▲ Mention Item NED-4267 when writing ▲

## VARIABLE SPEED DRIVE



Designed for instantaneous, stepless precision control of heavy industrial machinery, models D and E Allspeed Selector variable speed drives incorporate tandem belt construction. Model D delivers 2 to 5 horsepower and has speed range of from 360 to 2880 revolutions per minute using 1725-revolution per minute input speed. Ratio is 8 to 1. Model E delivers 2.7 to 7.5 horsepower and has speed range of from 410 to 2460 revolutions per minute using input speed of 1725 revolutions per minute. Ratio is 6 to 1.

Drives supplement lighter models A and C and feature same automatic positive belt tensioning, compactness, universal adaptability and easy maintenance. Made by **Worthington Pump & Machinery Corp.**, 427 Worthington Ave., Harrison, N. J.

▲ Mention Item NED-4268 when writing ▲

*IT'S HERE!*

**NEW *EVER-LOK* RECEPTACLES PLUGS & CORD CONNECTORS**
30 Amperes, 440 Volts, A.C.

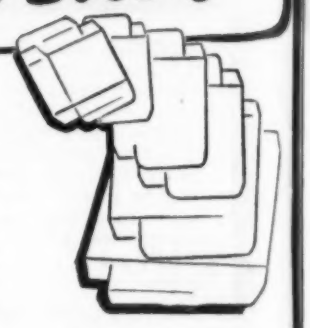
Here is a new *EVER-LOK* 30 ampere unit, small in size yet provides for large capacity, allowing ample room for wire connections. Used for heavy duty industrial purposes and many other applications. Assures safe, dependable performance wherever used . . . in industrial plants, factories, office buildings, department stores, hotels, institutional buildings, and scores of other heavy duty and high cycle jobs. Precision-built to withstand the severest service conditions.

*Write for this new Bulletin which describes and illustrates the many advanced features of the new EVER-LOK, 30 ampere unit. Address Dep't EL-446-2.*

RUSSELL & STOLL COMPANY
EXPLOSION-PROOF, WATER-TIGHT, INDUSTRIAL LIGHTING FIXTURES AND EQUIPMENT. AUTOMATIC LOCKING "EVER-LOK" CONNECTORS
125 BARCLAY STREET • NEW YORK 7, N. Y.

▲ Mention Item NED-4269 when writing ▲

**IMMEDIATE DELIVERY!**



40 Stock Sizes.
Tuck end tough kraft.
Stocked for immediate shipments.
Sizes range from 1/2 x 1-7/16 inches square to 2 x 7-1/4 inches.
Special cartons, plain or printed, made to your specifications.

•

Tags in all grades and colors to your order, printed, numbered, or plain.

**Campbell** BOX AND TAG CO.
Main & Equipment St.
South Bend 23, Indiana

▲ Mention Item NED-4270 when writing ▲

**Need to Measure Hydraulic Pressure?**
**GET GAUGES THAT WITHSTAND POUNDING**
**SHOCK LOADS**

Save time and maintenance costs by installing Schrader Hydraulic Gauges on your hydraulically operated machines and equipment.

Check the many cost-saving features of these rugged, accurate gauges.

- Designed on direct spring action principle.
- Built to withstand shocks and overloads.
- Self contained snubber in each gauge.
- Parts worn or damaged can be serviced by your own maintenance men.
- Calibrations in ranges from 5-50 PSI to 1500-5000 PSI. Calibrations in tons supplied on request.

*Write for complete information and* FREE Literature *Dept. 10*

**A. SCHRADER'S SON**
DIVISION of SCOVILL MANUFACTURING COMPANY, INCORPORATED
478 Vanderbilt Ave Brooklyn 17, N. Y

▲ Mention Item NED-4271 when writing ▲

**CENTURY SLIP RING MOTORS Provide Maximum Flexibility—For Speed Regulation . . . Torque Control . . . Reversing Direction of Rotation**

The photograph above shows 4 Century Totally Enclosed Slip Ring Motors on an outdoor crane. One motor powers the crane travel, one the carriage cross travel, one on small load hook and one on large load hook.

Century Slip Ring Motors provide variable speeds for the travel and hoist motions of the crane. Reversing direction of rotation permits crane travel in either direction.

Century builds a complete line of fractional and integral horsepower electric motors in the popular sizes to meet the requirements of industrial, commercial and appliance needs.

Specify Century for all your electric power needs.

**Century Electric Co.**
1806 Pine St., St. Louis 3, Mo.
*Offices and Stock Points in Principal Cities*

538

▲ Mention Item NED-4272 when writing ▲

**TRUCKS THAT CAN "TAKE IT" . . . . . for years!**

Bal Built means well built! Vulcanized Fibre construction—tough—light weight—durable—Specially designed steel top rail—1/8" thick Fibre angles—Hardwood slat reinforcements—Seasoned oak bottom—Oil and grease proof—Easy rolling.

**RACK, SHELF, BIN and SPECIAL TRUCKS—**

Also Tote Boxes and Parts Boxes made in all sizes. Let us know quantity and size required. *Dependable Trucks and Boxes made for years.*

*"SINCE 1898"*

**WILLIAM BAL CORPORATION**

**11 Johnson Street, Newark 5, N. J.**

*New York Office—239 West 39th St., New York 18, New York*

▲ Mention Item NED-4273 when writing ▲

***Speeds Up Inplant Handling***

- Complementing and supplementing power equipment, the FMC Clamp Truck is uniquely designed to handle boxed loads up to 600 pounds quickly and easily.
- Powerful clamp arms operated by a foot pedal pick up and hold loaded boxes and baskets firmly in place. Ideal for crowded areas inaccessible to larger carriers. Built for long time rugged service.
- Not just another hand truck, but a boon to the operator that soon pays its way in time saving. For descriptive catalog write Dept. ND.

**FOOD MACHINERY CORPORATION**
**RIVERSIDE DIVISION • RIVERSIDE, CALIFORNIA**

▲ Mention Item NED-4274 when writing ▲

## WHEELED SCAFFOLD

Legs of this Baker scaffold are equipped with ball bearing swivel type casters with hard rubber wheels to assure easy movement. Scaffold is 6 feet tall, 6 feet long and 29 inches wide. It can be maneuvered by one man through ordinary doorways and can be carried on standard elevators without disassembling. There are no cross braces and therefore scaffold can be used in occupied areas over and around office furniture, stock piles or machinery. Units can be stacked for height or to cover any floor area. Adjustment for uneven surfaces or stairways is provided. Scaffold will support approximately 2¾-ton load. Nesting space for storage of scaffold is little more than that required for ordinary stepladder. Made by **Baker-Roos, Inc.**, 602 W. McCarty St., Indianapolis, Ind.

▲ Mention Item NED-4275 when writing ▲

## FLANGE TOOLS

Used in pairs, Flange-Jacks (*Item NED-457, Jan. '46*) separate flanges in pipe lines for replacement of gaskets and keep flanges in perfect alignment without damage to faces. Tools will operate regardless of line pressure or location of flanges. They can be manipulated rapidly, thus reducing shut-downs to minimum. Standard No. 20 size is for standard flanges from 2 to 20 inches in diameter and for extra heavy flanges up to 12 inches in diameter. Giant No. 30 size is for standard flanges from 14 to 48 inches in diameter and for extra heavy flanges from 10 to 30 inches in diameter. Made by **J. H. Williams & Co.**, Dept. NED-7, 400 Vulcan St., Buffalo 7, N. Y.

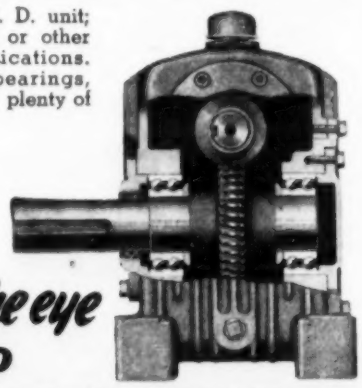
▲ Mention Item NED-4276 when writing ▲

## SPONGE RUBBER SANDING PAD

Faced with 1-inch thick, oil resistant, cellular type sponge rubber pad over which abrasive sheet is placed, this accessory is designed for use with Sterling 1000 portable electric sander (*Item NED-2060, April '44*). It makes possible machine sanding of curved surfaces of wood, metal, plastics and other materials. Being flexible, pad will sand convex and concave surfaces with equal ease. Pad is used with 3-2/3 x 10¼-inch abrasive paper sheets which are affixed in same manner as on standard sanding pad. Made by **Sterling Tool Products Co.**, 363 E. Ohio St., Chicago 11, Ill.

▲ Mention Item NED-4277 when writing ▲

Model HO-7400—a 4" C. D. unit; ideal for conveyor drive or other materials handling applications. Note double row ball bearings, rigidity of housing design, plenty of cooling area.



***There is more beef than meets the eye in STANDARD CONE-DRIVE SPEED REDUCERS***

Let us send you a table of ratings of Standard Cone-Drive Reducers. Check it against any other make.

You can't go wrong on Cone-Drive reducers. They give you greater ruggedness, increased load capacity, smaller size, high thermal efficiency, long trouble-free life. Made in pinion-under and pinion-over, gearshaft vertical or horizontal models. Available with water-cooling and extended shafts.

Write for Bulletin, giving approximate horsepower or torque and ratio required.

**CONE-DRIVE DIVISION**
**MICHIGAN TOOL COMPANY**
**7171 E. McNichols Road • Detroit 12, U. S. A.**

▲ Mention Item NED-4278 when writing ▲

***GRIPPING FORCE 15 TIMES AIR LINE PRESSURE***

Speedy Air Vise helps you do dozens of operations faster, better, cheaper—by air pressure! Foot control valve opens and shuts vise instantly, leaving *both* hands free to produce *more!* Jaw opens up to 3 inches, holds castings, parts, jigs, etc. Compact and trouble-free.

*Complete with Foot Control, Air Hose and Fittings* . . . . . only **$29.90**

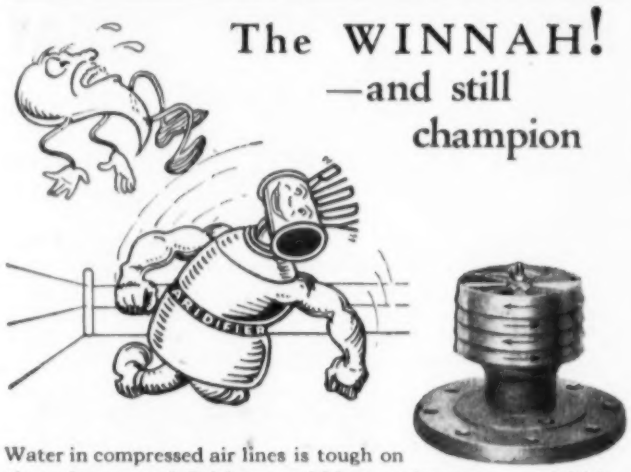
*Prompt Delivery from Your Supplier or Write Direct*

**W. R. BROWN CORPORATION • 5720 Armitage Ave. • Chicago 39, Ill.**

AIR REGULATORS • AIR FILTERS • AIR GUNS • PORTABLE COMPRESSORS

▲ Mention Item NED-4279 when writing ▲

**The WINNAH! —and still champion**



Water in compressed air lines is tough on air tools, sprayed finishes, sand-blast equipment . . . and it's tough to eliminate—*but* not with Aridifier, the "waterweight" champion. Those counter-rotating rotors deliver the knockout punch—spin air clean and dry by centrifugal force. Dirt, water, oil and scale are impinged on rotors and hurled free of air stream to flow to drain. No baffles or filters to cause back pressure . . . stays clean. Join the thousands of "Riddy" boosters—write for bulletin and details of *free trial offer*.

Logan Engineering Company
4904 Lawrence Avenue, Chicago 30, Illinois

**Logan ARIDIFIER**
Dries and Cleans Compressed Air

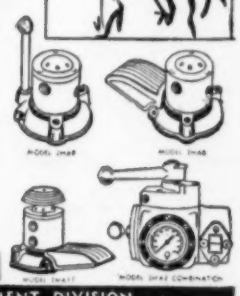
▲ Mention Item NED-4280 when writing ▲

**Having trouble with Air Control?**

**YOU NEED "AIR-MAG-INATION"**

**A FULL LINE OF FIELD PROVEN PISTON & DISC-TYPE VALVES**

"Air-magineered" to speed operations. Save space and eliminate "gadget" hook-ups. Hand, foot, manual, automatic, and delayed action. Work-tested in Lehigh's own big shops—field proven by hundreds of top rank users. Names on request. Catalog gladly mailed.



*Lehigh* **MARTON**

MARTON AIR-VALVE EQUIPMENT DIVISION
**LEHIGH FOUNDRIES, INC.**
Plant & General Offices: EASTON, PENNA.
New England Representative:
MARTON EQUIPMENT, INC., 145 Cabot Street, Beverly, Mass.

▲ Mention Item NED-4281 when writing ▲

**DIE CUSHIONS THAT MODERNIZE YOUR DIE CONSTRUCTION AND DESIGN**

ADAPTABLE TO ALL DEEP DRAWING PRESS OPERATIONS

Self-contained unit, quickly installed on any punch press

Furnished with hardened and ground pin pressure pad

| | | | | | | |
|---|---|---|---|---|---|---|
| DIE CUSHION PISTON DIA. | 5" | 6" | 8" | 10" | 12" | 14" | 16" |
| MAXIMUM DRAW (inches) | 2" | 2½" | 3" | 3" | 3" | 4" | 5" |
| DRAW RING PRESSURE (in tons) | .9 | 1.4 | 2.5 | 3.9 | 5.7 | 7.7 | 10.0 |
| SHIPPING WEIGHT (approx. lbs.) | 66 | 138 | 150 | 200 | 310 | 450 | 650 |

Write for catalog No. 100-13

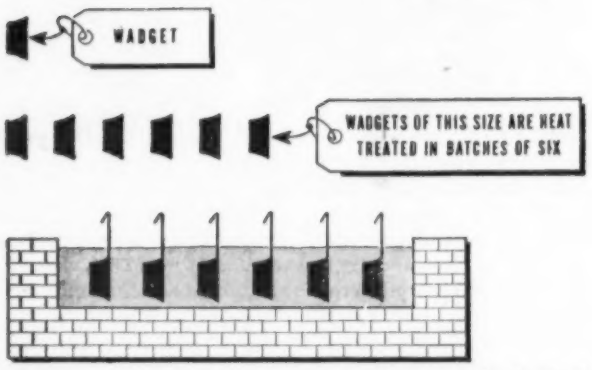
DAYTON ROGERS Manufacturing Company
MINNEAPOLIS 7, MINN.

▲ Mention Item NED-4282 when writing ▲



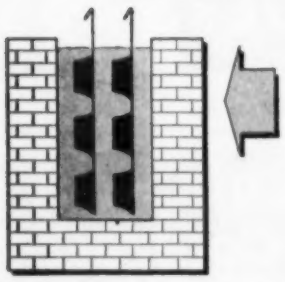
**HOW TO HEAT TREAT A WADGET* at LOWEST COST**

*To protect the surface, avoid distortion, eliminate decarburization, a salt bath furnace will, of course, be used.*




If you get a *conventional* salt bath furnace it looks somewhat like this . . . and the Wadgets are placed like this.†

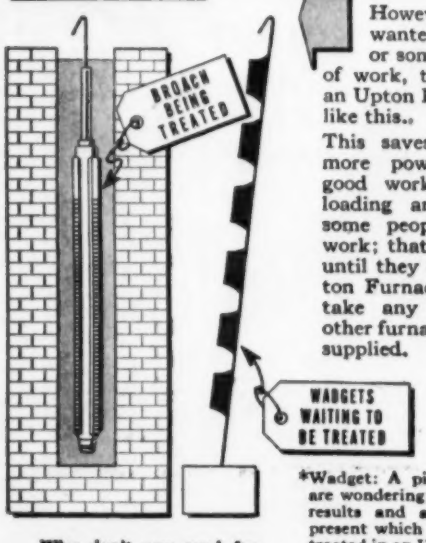
*Note the surface area exposed.†*



If you have an *Upton* Electric Salt Bath Furnace it would probably look like this . . . with the Wadgets being placed like this.

*Note surface area exposed.†*

*†Surface radiation losses equal 15 KW per sq. ft. per hour.*




However, if you also wanted to treat a broach or some similar long piece of work, then you could use an Upton Furnace that looked like this.

This saves more heat (and more power), does equally good work, takes less time loading and unloading, but some people think it won't work; that it's too deep. So, until they do realize that Upton Furnaces can be built to take any length work, the other furnace (No. 2) is usually supplied.

Why don't you send for more information on Upton Furnaces? Send us the dimensions of your Wadgets.

*Wadget: A piece of work that you are wondering how to treat for better results and at lower cost than at present which will eventually be heat treated in an Upton Electric Salt Bath Furnace because there is no known size or shape that cannot conceivably be treated in an Upton Electric Salt Bath Furnace.

**Upton ELECTRIC FURNACE DIV.**
7439 MELVILLE AT GREEN • DETROIT 17 MICHIGAN

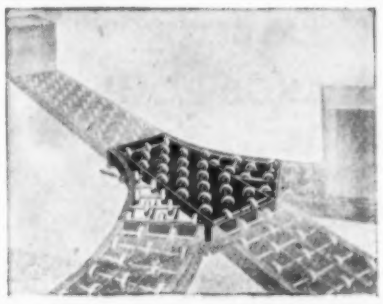
▲ Mention Item NED-4283 when writing ▲


## SCRAP CUTTING ATTACHMENT

When applied to almost any punch press, this model No. D-611 scrap cutter will cut stock up to 4 inches wide and to 3/32-inch thickness. It is mounted on bolster plate of press and is driven directly from ram or die. It is adjustable for any length of ram stroke up to 6 inches. High speed steel blades are removed readily for sharpening and are replaceable. Made by **Haller Machine & Mfg. Co.**, 7940 Tireman Ave., Detroit 4, Mich.

▲ Mention Item NED-4284 when writing ▲

## CONVEYOR SWITCH



Designed for use on Roll-or-Wheel conveyors (*Item NED-5449, Sept. '44*) or in any standard conveyor setup, this 3-way switch can be adjusted instantly to provide flow of materials in any of three directions: left, right and straight ahead. Hand lever changes direction of flow by movement of pivot wheels which pick up part or package from conveyor and direct it as desired. Pivot wheels in center section are raised slightly above level of wheels in spin portion of unit to eliminate drag in switching operation. Rustproof Red Wheels are used in construction of switch. Made by **E. W. Buschman Co.**, Clifton & Spring Grove Aves., Cincinnati 32, O.

▲ Mention Item NED-4285 when writing ▲

## INDUSTRIAL MOVIES

Two industrial motion pictures entitled "The Bullard Company Presents Man-Au-Trol—Master of the Machine" and "Bullard Pioneers Interchangeability without Jigs" are 16-millimeter sound films approximately 27 and 15 minutes in length respectively. First picture shows Man-Au-Trol vertical turret lathe in operation and how it is set up for either automatic or manual control. Second picture shows Spacer's set up, and operation is explained. Animation is used to portray details. They are available for showing before interested groups. Available from **Bullard Co.**, Bridgeport 2, Conn.

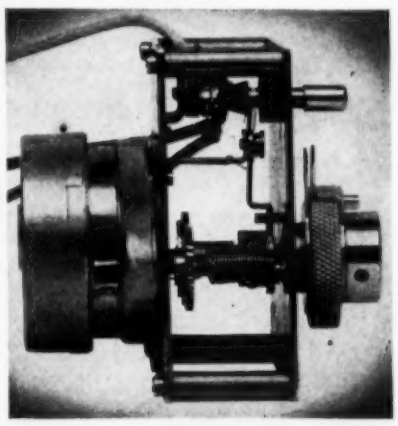
▲ Mention Item NED-4286 when writing ▲

## MARKING TOOL

Valve controlled, pocket size Flo-Master Fountnbrush marking tool can be used for marking glass, wood, wax, metal, cloth, leather, paper and cellophane surfaces whether they are wet or dry, hot or cold. Three styles of felt nib points are available for drawing broad, medium or fine lines. Tool is finished in satin aluminum and can be purchased individually or in sets complete with Cado Instant-Dri inks. Made by **Cushman & Denison Mfg. Co.**, 135 W. 23rd St., New York 11, N. Y.

▲ Mention Item NED-4287 when writing ▲

## RESET TIMING CONTROL



Designed for permanent panel installation to control electrical circuits, this model P-147-60 reset timer starts at touch of button and, when time cycle is completed, it resets automatically. This compact and inexpensive device can be furnished in time cycles of 15, 30 and 60 seconds and 5, 15 and 30 minutes. Control is recommended for use on photocopy machines, x-ray units, therapy devices, for industrial operations such as brazing and on production machinery.

Timer is composed of two mounting plates, reset synchronous motor, open type jack switch, reset button, cam, latch, torsion spring to return motor to original position, indicator actuated by motor, and adjustable stop held in position by friction clutch. Devices to be controlled are connected in parallel and will operate as long as motor is energized. Adjustable stop can be moved easily for any time setting. Unit operates on 110-volt, 60-cycle alternating current and has 1500-watt capacity. Made by **American Time Corp.**, 56 Main St., Springfield 1, Mass.

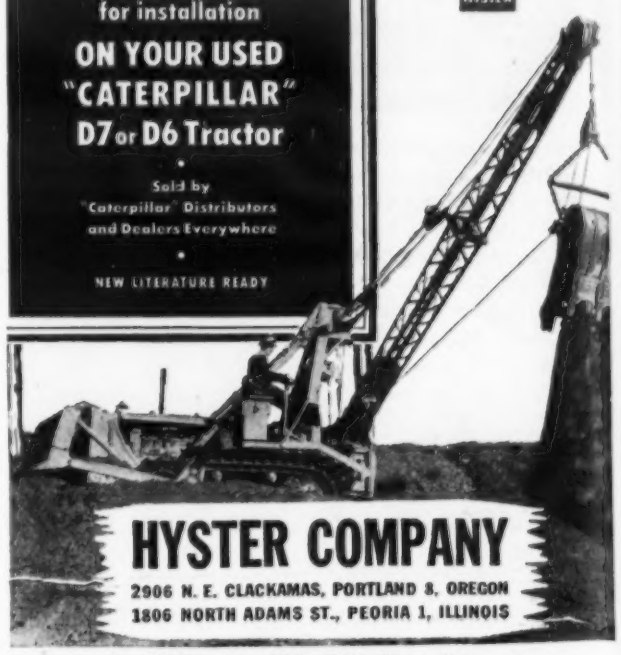
▲ Mention Item NED-4288 when writing ▲


**CURRENT DELIVERY on a HYSTAWAY for installation ON YOUR USED "CATERPILLAR" D7 or D6 Tractor**

Sold by "Caterpillar" Distributors and Dealers Everywhere

NEW LITERATURE READY

**DRAGLINE CLAMSHELL and CRANE COMBINATION**

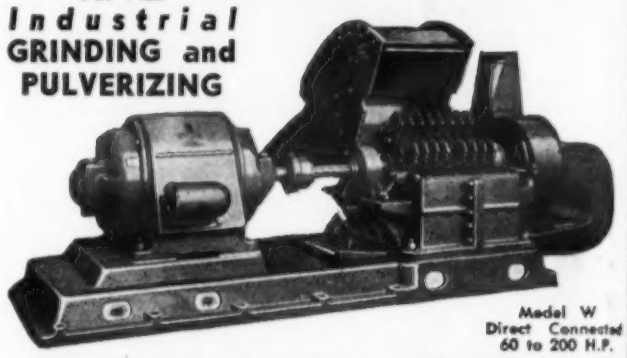


**HYSTER COMPANY**
2906 N. E. CLACKAMAS, PORTLAND 8, OREGON
1806 NORTH ADAMS ST., PEORIA 1, ILLINOIS

▲ Mention Item NED-4289 when writing ▲



For ALL *Industrial* GRINDING and PULVERIZING



Model W Direct Connected 60 to 200 H.P.

**JAY BEE Hammer Mills**

Jay Bees Grind ANYTHING grindable—from feathers to firebrick!

**Increase Capacity—Reduce Operating Costs**

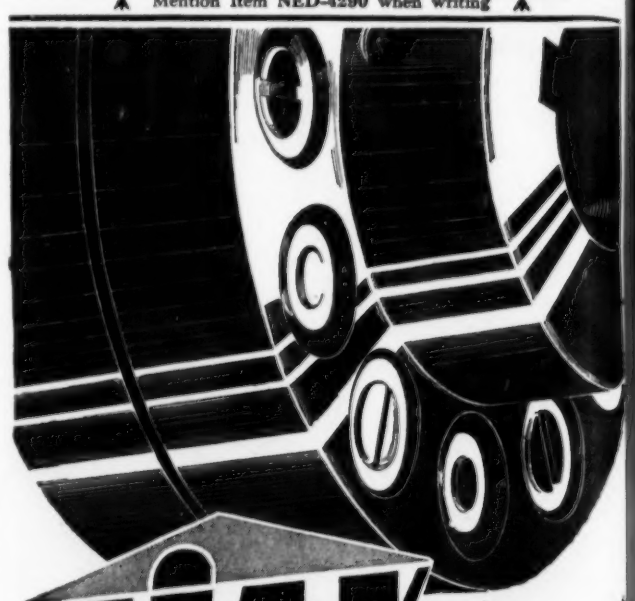
Whatever you grind . . JAY BEE Mills solve your problems with notable efficiency. Strength, durability and precision of operation are combined to give you a maximum of continuous operation, capacity and quality grinding at a minimum cost.

JAY BEE Mills, result of over 25 years of manufacturing experience, are made in many sizes and models . . 12 to 200 H.P., for Belt, V-belt or Direct Connected drives . . for every grinding and pulverizing purpose. It will pay you to write for details.

**J. B. SEDBERRY, INC.**
Utica, New York Franklin, Tennessee

▲ Mention Item NED-4290 when writing ▲





**AJAX FLEXIBLE COUPLINGS**

The fact that all the horsepower goes through the coupling emphasizes the importance of protecting direct-connected machines against misalignment.

AJAX FLEXIBLE COUPLING CO. INC., WESTFIELD, N. Y.

▲ Mention Item NED-4291 when writing ▲

SPRACO NOZZLES

Write for NOZZLE CATALOG to
SPRAY ENGINEERING CO.
106 CENTRAL STREET • SOMERVILLE 45, MASS.

▲ Mention Item NED-4292 when writing ▲



Important ANNOUNCEMENT

THE PIONEERS OF TOOL AND DIE WELDING ELECTRODES INTRODUCE IMPROVED EUREKA LINE

SLAG REMOVAL is easy when you use the improved Eureka tool and die welding electrodes. As shown above, *slag lifts of its own accord* after unit has been "Eureka-welded!" Rapid separation of slag eliminates another age-old welder's problem!

These improved Eureka mineral coated electrodes may be used for A.C. or D.C. welding. Manipulation characteristics are greatly improved.

Eureka welding can save you many man hours, conserve tools and dies and greatly reduce production delays!

WELDING EQUIPMENT & SUPPLY CO.
225 LEIB STREET • DETROIT, MICHIGAN

▲ Mention Item NED-4293 when writing ▲



GRAVITY CONVEYORS

ROLLER TYPE
6 to 16 staggered wheels per foot. 10 wheels standard. Odd lengths and different wheel alignments available.

WHEEL TYPE
1 to 5 rollers per foot. 4 rollers standard. 2" diameter rollers. Choice of number of rollers running from 2¼" centers to 12" centers. Dust-proof ball bearings, lubricated for life.

WHEELS and ROLLERS ARE
• LUBRICATED FOR LIFE •

Sections—5', 10'; Standard widths—Wheel Type 11½", Roller Type 11½" and 16". Two or more sections may be bolted together for greater widths. We bore the holes and supply bolts and nuts at no additional cost. Curves—5', 8', 12'; 45° or 90°.

METZGAR "POWER HELPER"
Portable Power Conveyor and Loader.
Model 680—6' Basic unit—available up to and including 10' lengths. 8" belt. Model 812—8' Basic unit—available up to and including 12' lengths. 12" belt. Plug in electric power.

WRITE FOR DESCRIPTIVE FOLDER
METZGAR CO., 406 Douglas N. W.
Grand Rapids 4, Michigan

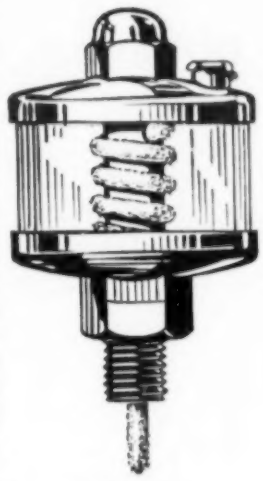
▲ Mention Item NED-4294 when writing ▲


## COFFEE BREWER STOVE

Designed for use in industrial plants and factory cafeterias, this heavy duty type electric coffee brewer stove is available in 2, 3 or 4-port styles and in 4, 6 and 8-port step-up models. Stove body is made of stainless steel or vitreous enamel. All wiring is heavily insulated and noncorrosive. Switches are three-station heat controls and element cups are of stainless steel. Four-port step-up model shown in illustration is complete with Flameglas coffee brewers. Made by **Wilbur Curtis Co.**, 1781 N. Indiana St., Los Angeles 33, Calif.

▲ Mention Item NED-4295 when writing ▲

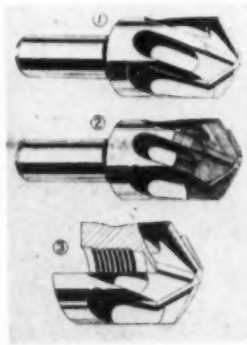
## WICK FEED OILER



Usable on continuously operating bearings, for feeding of filtered oil and operation in dusty surroundings, style WO wick feed oilers are available in capacities of ½ to 8 ounces. Lubricant is filtered and fed to bearing surface by means of capillary action so that no dirt or sediment can reach bearing. Transparent Lucite reservoir is unbreakable and body of oiler is brass. Easy filling is afforded by use of self-closing hinged lid. Modifications such as drip sight and shutoff are available. Made by **Oil-Rite Corp.**, 3464 S. Thirteenth St., Milwaukee 7, Wis.

▲ Mention Item NED-4296 when writing ▲

## COUNTERSINKS



Added to line of countersinks, three types embody shear-cutting teeth that are staggered both as to spacing and shear angle. Design precludes chatter and results in more rapid cutting of seats with high finish. Tools having 60-degree angle with centerline are standard in nine sizes up to 1-inch diameter. Other standard angles in standard series are 30, 41 and 45 degrees in diameter sizes up to 2 inches. Cemented carbide countersinks are available in sizes to 1½-inch diameter and in same standard angles as high speed countersinks.

Countersinks with threaded bodies in diameters of 1-inch and larger can be mounted directly on user's adapters or to tapered shank and straight shank adapters or arbors available in various sizes. Body dimensions are same as for standard countersinks. Made by **Severance Tool Industries, Inc.**, 761 Iowa Ave., Saginaw, Mich.

▲ Mention Item NED-4297 when writing ▲


Don't BURN Paper CONVERT IT!

AIRFLUFF PAPER SHREDDER MAKES EXCELSIOR OUT OF CONFIDENTIAL PAPERS, BLUEPRINTS OR ANY WASTE PAPER

Here's the machine that destroys paper yet saves it! The AIRFLUFF Paper Excelsior Shredder, easily shreds, separates and fluffs old newspapers, confidential papers, blueprints, magazines, waste paper, corrugated cartons, tissue, Cellophane and waxed paper. Low price, simple to install. Power and maintenance cost less than 2c per 100-pound bale. Absolutely safe—present employees can easily operate. Cuts in widths from ⅛" to ⅜" Model No. 14 shreds 600 to 1800 lbs. per hour. Model No. 10 shreds 200 to 800 lbs. per hour. Write today for prices and complete facts about these remarkably simple, sturdy and efficient new AIR-FLUFF Paper Shredders.

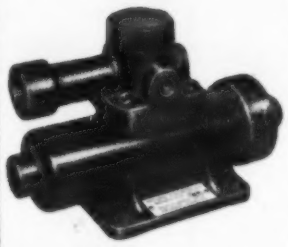
See our insert and listing in Thomas Register.

MITTS & MERRILL • SAGINAW, MICH.
1000 SOUTH WATER STREET
BUILDERS OF MACHINERY SINCE 1854

▲ Mention Item NED-4298 when writing ▲



NP Automatic WATER EJECTOR for Compressed Air Systems



• This water ejector *automatically* removes *collected* water from compressed air systems...eliminates messy, costly manual draining... cannot cause a loss of pressure because it never connects the compressed air system to atmosphere...prevents water damage to pneumatic equipment and production material...thousands in operation.

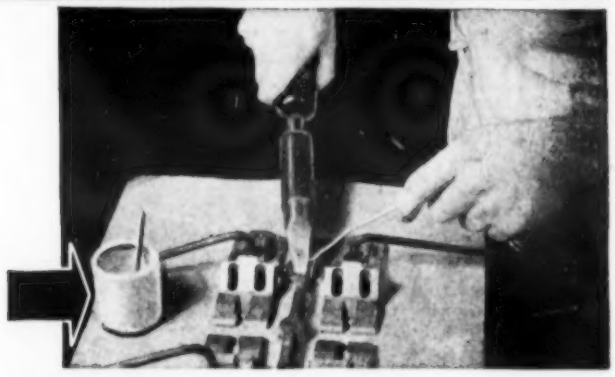
*Write for Bulletin DC-25-A.*

NATIONAL PNEUMATIC COMPANY
*INDUSTRIAL SALES DIVISION*
RAHWAY, NEW JERSEY

*Pneumatic Specialists Since 1904*

▲ Mention Item NED-4299 when writing ▲





A KESTER FLUX for every soldering job

• For every soldering operation that requires a separate flux, there's a Kester Flux in the exact formula to do the best job. Kester Fluxes are laboratory tested, and manufactured to eliminate the risk of failure in any solder requirement.

• Nearly half a century of research in the laboratory and practical experience in the plants of industrial users have provided Kester engineers with the basis for the scores of flux formulas Kester manufactures for industry.

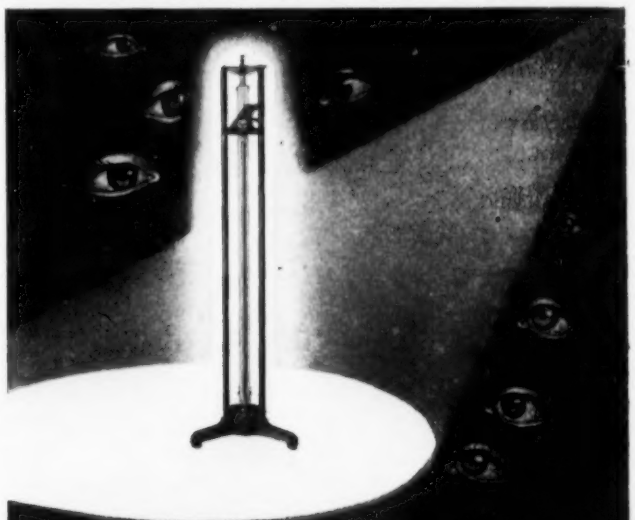
• This huge fund of flux and solder knowledge is at your disposal. Write fully at any time for prompt assistance on any solder question. There is no obligation.

KESTER SOLDER COMPANY
4249 Wrightwood Avenue, Chicago 39, Ill.
Eastern Plant: Newark, N. J. Canadian Plant: Brantford, Ont.

KESTER Solder Fluxes
STANDARD FOR INDUSTRY

▲ Mention Item NED-4300 when writing ▲





Anyway you look at it . . . .
—the W & T Mercurial Barometer is a headline performer. Here's why—

1 It can be used with equal ease as an accurate, dependable manometer by simply opening a valve.
2 Temperature compensation is accomplished by a twist of a dial.
3 Well level corrections for each reading are eliminated.
4 A magnifying eyepiece minimizes reading errors.
5 The knife-edge float on the mercury column permits readings to 0.005 of an inch of mercury with scales graduated in inches and to 0.1 mm of mercury with scales graduated in millimeters.
6 It can be used for any pressure or vacuum measurement from zero absolute to 31 inches of mercury.
7 The column is made from precision bore tubing to permit interchangeability.
8 It's built throughout to exacting standards for dependability, accuracy and long life and is supplied for either bench or panel mounting.

Write today for detailed information on this versatile precision instrument.

WALLACE & TIERNAN PRODUCTS INC.
BELLEVILLE 9 NEW JERSEY

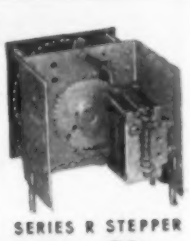
▲ Mention Item NED-4301 when writing ▲

**GUARDIAN Standard Type Relays**

**Solve many "SPECIAL" control problems...**

**How Multiple Variations of Guardian Basic Design Relays May Transform a Standard unit into the Special You Need.**

The Guardian Basic-type relays shown are but a few of the many standard Guardian units which offer a wide range of variations. You get the standard advantages of quicker delivery, lower cost, consistent performance. For example, Guardian's Stepping Relay is available in three basic types: continuous rotation; add and subtract; electrical reset with numerous variations. Series 500 is small, lightweight, offers many contact combinations, has replaceable coil. Series 595 is tiny. Switch capacity up to 10 PDT, 1.5 amp. contacts. Weighs approx. 2 Oz.



SERIES R STEPPER

SERIES 500 RELAY

SERIES 595 RELAY

SEND FOR THIS NEW GUARDIAN CATALOG

*Your Copy is Waiting— No Cost, Write*

**GUARDIAN ELECTRIC**

1626-H W. WALNUT STREET CHICAGO 12, ILLINOIS

A COMPLETE LINE OF RELAYS SERVING AMERICAN INDUSTRY

▲ Mention Item NED-4302 when writing ▲



**YOUR SUNROC IS READY *Now***

**SUNROC** is ready to make immediate delivery of 10-gallon-per-hour pressure-type water coolers at the lowest retail price for any such cooler on the market—$235 F.O.B. Glen Riddle, Pa.

**SUNROC** is ready with water coolers that provide trouble-free service and low-cost operation.

**SUNROC** is ready with the most complete line of water coolers in America—10 different models in a wide range of sizes and capacities.

**SUNROC** is ready to send you complete details. Write Dept. NE-7, Sunroc Refrigeration Company, Glen Riddle, Pa.

**Sunroc** *Water Coolers*

GLEN RIDDLE, PA.

Sunroc Branch Offices in Principal Cities

**"SUNROC SERVES THE WORLD . . . a cool drink of water"**

▲ Mention Item NED-4303 when writing ▲



**REPEAT ORDERS prove advantages of EMERI-CRETE FLOORING**

Here are records of only five of our hundreds of customers who have steadily sent in repeat orders . . . . they are five you will recognize and in whose judgment you will undoubtedly have confidence - - - one of the largest automobile manufacturers, a prominent wire and cable company, a leading motor truck manufacturer, a well-known food products firm and one of the largest meat packing plants (names upon request).

**Let's look at the record:**

One originally purchased 8 bags and has sent in 13 repeat orders (the last two 1,500 and 1,095 bags) for a total of 32,648 sq. ft. of flooring during a 4 year period.

Another started with 20 bags and has sent in 6 repeat orders (two being 2,400 bags each) for a total of 67,840 sq. ft. of flooring in 2½ years.

A third started with 166 bags and has sent in 7 repeat orders (four being 1,000 bags each) for a total of 50,128 sq. ft. of flooring in 2½ years.

A fourth started with 20 bags and has sent in 6 repeat orders (the last two being 800 bags each) for a total of 14,080 sq. ft. of flooring in 3 years.

The fifth started with 2 bags and has sent in 7 repeat orders (the last two 614 and 462 bags each) for a total of 22,368 sq. ft. of flooring during 3 years.

This is proof that EMERI-CRETE FLOORING is standing up under heavy duty industrial use. It is worth your while to investigate this durable, longlasting, non slip flooring. We will gladly send you facts on EMERI-CRETE FLOORING and a list of other leading plants who are satisfied users.

EMERI-CRETE is the original emery flooring. It is made from scientifically selected CORTLAND EMERY AGGREGATE, and is mixed with portland cement and water only. It is easily laid by a maintenance crew or local contractor.

**WALTER MAGUIRE CO., INC., 330 W. 42nd ST., NEW YORK 18, N. Y.**

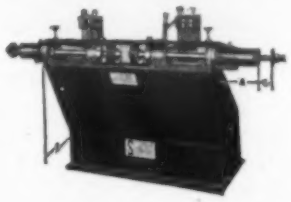
**EMERI-CRETE FLOORING**

Reg. U. S. Pat. Off.

▲ Mention Item NED-4304 when writing ▲


## BUFFING & POLISHING UNIT

Essentially two machines in one, this two-motor Proper Speed buffing and polishing machine is constructed so that each side of machine is driven and controlled independently. This arrangement permits two operators to work independently of each other. Machine embodies overhang base design and is available to accommodate 2, 3, 5, 7½, 10, 15 and 20 horsepower motors. They are available also with Speedial control on each spindle to provide infinite speed range between 1500 and 3000 revolutions per minute.



Each spindle assembly is equipped with three ball bearings protected in liberal size oil reservoirs and with sight feed oil gage on each bearing housing. Spindle has Acme threads and hard bronze spindle nuts. Optional equipment is hand brake for stopping spindle quickly, or coincidental arrangement of stopping spindle and shutting off current. Made by **Standard Electrical Tool Co.**, 2488 River Rd., Cincinnati 4, O.

▲ Mention Item NED-4305 when writing ▲

## DOUBLE-ACTION HAMMER MILL

Designed to crush whole compressed caked materials such as cotton seed, meat and fish scrap, soy bean, chocolate and similar food, chemical and industrial products that are made in large slabs, model W-30 (CC) double-action hammer mill combines preliminary breaking with average finish grinding. Mill is equipped with chute-type feed set at angle to rotor. Whole cakes or slabs are fed into battery of revolving hammers which first break off material in small sections. These pieces are then pulverized against breaker plate and carried over grate bars for final sizing.

Hammer mill is of all-welded design and employs one-piece reversible hammers of heat treated alloy steel. Oversize shaft of heat treated chrome-nickel alloy is mounted in standard SKF oversize, double row, self-aligning bearings. Built-in trap provides protection against damage from metal or foreign materials. Grate bar spacing is readily adjustable by adding or removing spacers. Made by **Buffalo Hammer Mill Corp.**, 9 Washington St., Buffalo 3, N. Y.

▲ Mention Item NED-4306 when writing ▲

## PAVEMENT BREAKER

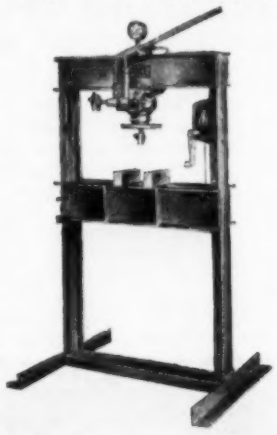
Eighty-two-pound model PB-8 pavement breaker is suitable for heavy duty demolition work and general pavement breaking jobs. Unit can be converted easily into pile driver or spike driver by changing front heads. Throttle valve allows gradual entrance of air to provide easy and smooth starting. Kicker-port valve provides for maximum efficiency and striking power. Adequate oil reserve is provided by large oil reservoir in handle. Metering device furnishes proper lubrication of working parts.

Long anvil block bearing assures correct alignment of cylinder and front head. Long handle has large gripping surface to reduce operator fatigue. Made by **Ingersoll-Rand Co.**, 11 Broadway, New York 4, N. Y.

▲ Mention Item NED-4307 when writing ▲

## HYDRAULIC PRESS

Fast acting ram of this model 25H 25-ton hydraulic press adapts it for intermediate work in maintenance, service and production. Ram is of screw type which can be advanced to work by hand. Large manually operated hydraulic pump assures speed of operation. Space between uprights will accommodate work up to 33-1/2 inches in diameter. Press is constructed with arc welded steel channel reinforced throughout. Standard equipment includes two combination table and V-blocks, round nose for pressing, pressure gage and table hoisting mechanism. If desired, press can be supplied without pressure gage and table hoist. Made by **Dake Engine Co.**, Grand Haven, Mich.



▲ Mention Item NED-4308 when writing ▲


**OHIO WATERTIGHT WELD NUTS**

Watertight Weld Nuts have a ring projection for anchoring to sheet metal using heavy press welders with electronic controls. As shown in the cut, the assembly is completely leak-proof.

They are made with blind or through tapped holes in ⅛" pipe thread and in screw thread sizes #5-40 to ½-20 inclusive.

*For information and samples, write to*

**THE OHIO NUT & BOLT COMPANY**

608 FRONT STREET BEREA, OHIO

▲ Mention Item NED-4309 when writing ▲



*These* **TORNADO COMPANION CLEANERS** *keep maintenance costs down!*

*because..*

this powerful TORNADO Floor Machine does a host of jobs, —and does them vigorously, thoroughly, quickly. It scrubs, waxes, polishes, scours, sands, steel wools, and does other similar floor conditioning work. There is a size and attachment to fit your exact need, and it is quiet, easy to operate, responsive to every touch and movement, sturdily constructed to give a lifetime of active, trouble-free service.

BECAUSE the improved, re-designed TORNADO Industrial Vacuum Cleaner is two maintenance machines in one and has an instantly removable HAND BLOWER with a tremendous blast of clean, dry air which removes dust, dirt, lint and fuzz from interior and hard-to-reach places. When used as a powerful vacuum cleaner, it has countless, everyday services, picking up dirt, dust, steel filings; salvaging small scrap from work benches and floors; promoting orderliness and careful workmanship.

AS COMPANION CLEANERS, the vacuum cleaner follows the floor machine in one continuous operation, picking up water, moist scraps and leavings, drying the surface and leaving it gleamingly safe and sanitary.

*Write for Literature or Free Demonstration*

Check the advantages of having both TORNADO Floor Machine and TORNADO Vacuum Cleaner to keep your maintenance costs down.

**BREUER ELECTRIC MFG. CO.**

5092 NORTH RAVENSWOOD AVENUE

CHICAGO 40, ILLINOIS

▲ Mention Item NED-4310 when writing ▲

# Data Book on preventing HEAT LOSS with B-H Rockwool Insulations

*Black* Rockwool is widely recognized as an efficient, permanent material for both heat and cold insulation. This book contains detailed descriptions, application methods and specifications for Baldwin-Hill Industrial Insulations, including:

**B-H MONO-BLOCK,** the one block insulation—for service up to 1700° F.

**B-H BLANKETS,** for insulating large tanks, etc. —up to 1200° F.

**No. 100 PIPE COVERING,** for long runs overhead or underground—up to 1200° F.

**No. 1 CEMENT,** for insulating irregular surfaces —up to 1800° F.

**B-H KOLDBOARD,** a rigid fireproof block for low temperature insulation.

***WRITE on your letterhead for a copy***

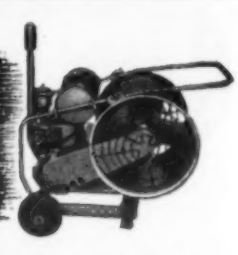
**Baldwin-Hill**

524 Breunig Avenue, Trenton 2, N. J.

▲ Mention Item NED-4311 when writing ▲



*New Type* HERMAN NELSON PORTABLE VENTILATOR (With blow-through or draw-through action)



***Solves many ventilating and cooling problems in:***

- ☐ Welding Booths
- ☐ Refrigerator Cars
- ☐ Smoke Removal
- ☐ Tunnels
- ☐ Manholes
- ☐ Warehouses
- ☐ Airplane Hangers
- ☐ Small Boats
- ☐ Shipholds
- ☐ Engine Rooms
- ☐ Paint Spray Booths
- ☐ Dust Removal
- ☐ Field Repair Shops
- ☐ Storage Tanks
- ☐ Airplanes

***Write for complete details and prices.***

This light-weight, high-powered, portable ventilating fan is easily wheeled from place to place. Two-way air flow permits drawing smoke, dust or gases from area, or supplying fresh, cooling air to spot desired. Equipment includes one 14" diameter by 16' length collapsible canvas duct. Powered by gasoline engine or electric motor.

**THE HERMAN NELSON CORPORATION**

Since 1906 Manufacturers of Quality Heating and Ventilating Products

MOLINE, ILLINOIS

▲ Mention Item NED-4312 when writing ▲



*Empco* JACKS TO SET AND KEEP YOUR MACHINES **LEVEL**

To lower, turn screw to left.
To raise, turn screw to right.

**3 SIZES**
No. 1—2" normal height
No. 2—2⅝" normal height
No. 3—3½" normal height

**SELF-ALIGNING, SMOOTH, ACCURATE, POSITIVE ADJUSTMENTS!**

Machine Tool Manufacturers strongly emphasize the need, not only to set machines level, but to keep 'em that way. Periodic re-leveling is essential for accurate work tolerances. How often, depends on the type of foundation. No method of machine setting is stable enough to maintain the accuracy of initial leveling. It is important to check after first month of operation, then check periodically and re-level whenever necessary. When a machine is set on EMPCO JACKS, the whole operation is the work of but a moment: Simply apply a wrench to the "hex" screw head, turn right or left until your level indicator reads "zero."

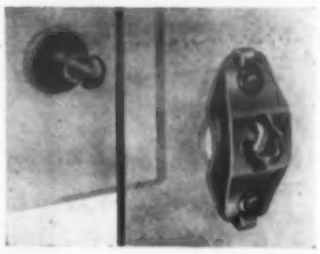
EMPCO

**THE ENTERPRISE MACHINE PARTS CORPORATION**

2727 JEROME AVE. DETROIT 12, MICH.

▲ Mention Item NED-4313 when writing ▲


## QUICK-ACTION FASTENER



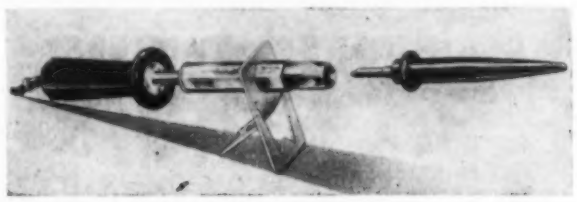
Equipped with rubber grommet in place of aluminum or steel grommet, this model No. 5 Lion quick-action fastener (*Item NED-418, Jan. '46*) holds stud firmly in place and can be applied without using special tools. It provides instantaneous easy locking by a quarter turn of head. Variations in length of stud make fastening device applicable for various sheet thicknesses. Rubber grommet is especially recommended for use where air or water is factor in application.

Tensile strength of fastener is 1425 pounds and shearing resistance is 1950 pounds. Metal portions of unit are cadmium plated to resist corrosion. Made by **Lion Fastener, Inc.,** E. Main St., Honeoye Falls, N. Y.

▲ Mention Item NED-4314 when writing ▲

## CORDLESS SOLDERING TOOL

Facilitating delicate fabrication of intricate mechanical parts, this pencil type Kordless Kwikheat soldering tool is used in manner similar to that in which a desk pen set is employed.



Unit is placed in operation by screwing heater receptacle into any size Kwikheat electric soldering iron and plugging entire assembly into power source. Forged tellurium copper alloy tip is then allowed to heat and when withdrawn, it will retain approximately 680 F temperature for 1 minute. Tip can be reheated in 20 seconds by reinserting it in heater receptacle. Made by **Sound Equipment Corp. of Calif.,** 3901 San Fernando Rd., Glendale 4, Calif.

▲ Mention Item NED-4315 when writing ▲

## MILL TYPE MASTER SWITCH

Constructed to require minimum of maintenance despite severest service, mill type master switch has offset handle construction which permits grouping of three or four units with 7-inch handle centers. Hardened cam shaft operates in needle bearings and Bakelite cams are bolted in position. Assembly can be removed as unit. Star wheel and roller are hardened and return spring pressure can be adjusted. Movable silver contacts are double break, spring closed and mechanically opened. Dustproof enclosure has 1¼-inch conduit entrances which can be redrilled and tapped to 1½ inches. Made by **Square D Co.,** 4041 N. Richards St., Milwaukee 12, Wis.

▲ Mention Item NED-4316 when writing ▲


**BAKER TRUCKS** *help lower* **PRODUCTION COST OF** *Ford* **TRACTORS**

Unloading racks of tractor parts from highway trailer with Baker Fork Trucks. Trucks tier these racks in convenient storage areas and transport them to assembly lines.

The essential relation between "mass production" and "engineered material handling" is effectively demonstrated at Ford's huge Highland Park, Mich., tractor plant. Here modern handling facilities including a fleet of Fork Trucks, keep materials moving in a highly integrated, efficient flow pattern reducing handling costs to a minimum.

Wherever possible, parts and materials are handled on pallets. Incoming shipments not palletized are usually palletized upon arrival—and the ultimate aim is to have all suppliers ship on pallets. Certain parts, such as tractor fenders, arrive nested on tierable racks (see illustration). Besides cutting costs by eliminating individual handling, this "unit load" system permits tiering to conserve space.

*Baker Material Handling Engineers are prepared to recommend similar cost saving methods for your plant.*

**BAKER INDUSTRIAL TRUCK DIVISION**
*of The Baker-Raulang Company*
2179 WEST 25TH STREET • CLEVELAND, OHIO

**Baker INDUSTRIAL TRUCKS**

▲ Mention Item NED-4317 when writing ▲

# Smooth, Tough Formica *prevents Seconds!*

In the textile industry one of the strongest reasons for using Formica parts in production equipment is the fact that its smooth, tight surfaces permit delicate fabrics to slide over it without ever snagging them—and the saving in seconds, so created, very quickly pays for the material.

Particularly in the production of fine knitted fabrics is that important, and that is why Formica hosiery carriers and Formica hosiery trays have had such an enthusiastic reception from mill managements.

**THE FORMICA INSULATION CO.**
4639 Spring Grove Ave.
Cincinnati 32, Ohio

FORMICA
TRADE MARK REG. U.S. PAT. OFF.

▲ Mention Item NED-4318 when writing ▲

# *Immediate* Delivery *from Stock*

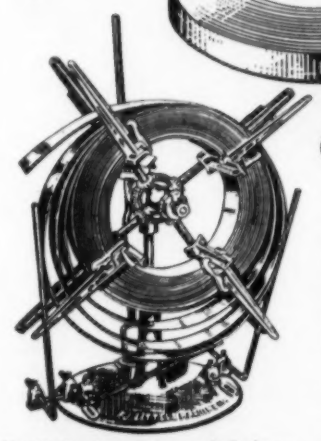
Johnson UNIVERSAL Bronze Bars are now available, from stock. Over 350 sizes to choose from . . . all completely machined. Call your local Johnson Distributor or write direct to . . .

JOHNSON SLEEVE BEARING — The Most Complete Sleeve Bearing Service in the World — BRONZE HEADQUARTERS
580 S. MILL STREET NEW CASTLE, PA.

▲ Mention Item NED-4319 when writing ▲



# TOPS ON SPEED IN HANDLING COIL STOCK



Littell Reels center and balance coil stock. Ball bearings. Adjustable brake and bars. With loading lever, one man can load coils up to 300 lbs.

AUTOMATIC centering and balancing of coil stock is done with speed, ease and saving of material with LITTELL Automatic Centering Reels. Plain and motor driven types. Capacities, 800 to 6,000 lbs. Coil Cradles for coils up to 20,000 lbs.

Other Littell press-room equipment includes: Roll and Dial Feeds, Power Straighteners, Scrap Winders, Air-Blast Valve. Vacuum and Mechanical Pickers.

**F. J. LITTELL MACHINE CO.**
4161 Ravenswood Ave.
Chicago 13 Ill.

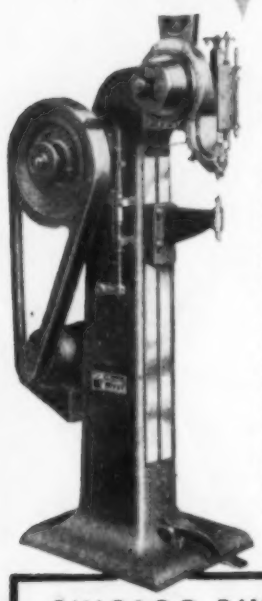
REQUEST BULLETINS

SPEED WITH SAFETY

**LITTELL REELS**

▲ Mention Item NED-4320 when writing ▲

# FASTENING HEADQUARTERS IS *Chicago Rivet*



When you want information on automatic rivet-setting or help with any production fastening problem, call on Chicago Rivet. Here, 26 years' fastening experience is at your disposal. Chicago engineers have lowered assembly costs and improved the products of hundreds of manufacturers.

***Free* FASTENING CLINIC**

Send us a drawing or unfastened sample or sub-assembly of your product. We will gladly analyze your fastening needs, recommend the type of rivet and Chicago Automatic Rivet-Setter to do the job best, and submit estimated production rates. No charge or obligation.

*Model 121 Chicago Automatic Rivet-Setter*

**CHICAGO RIVET & MACHINE CO.**
**9606 W. Jackson Blvd., Bellwood, Ill.** *(Chicago Suburb)*
**Automatic Rivet-Setters • Tubular and Split Rivets in all Rivet Metals**

▲ Mention Item NED-4321 when writing ▲



# *SpeedWay*

**No. 89**
**1/2" ELECTRIC DRILL**
**$29.95**

**No. 209 Drill Stand** (Less Drill) **$12.95**

Light in weight, convenient and handy, this improved drill has a special aligning grip that makes straight drilling natural. Backed by 35 years of electric drill manufacturing, produced in great quantities by modern methods, this is today's best drill buy. For every day farm, garage, construction and maintenance use, you can't get a better drill at any price. Specially wound, long life, high torque, fan-cooled motor. Cut steel gears, self-lubricating bearings, sturdy die cast case and a full sized snap action chuck (no key to lose).

With a No. 209 Drill Stand, the 89 Drill makes a capable lever operated drill press. Order from your local SpeedWay dealer.

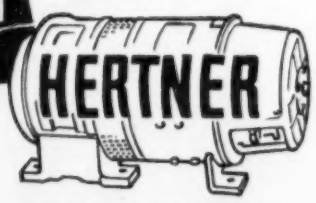
**SPEEDWAY MANUFACTURING CO.**
**1868 SOUTH 52nd AVENUE, CICERO, ILL.**

▲ Mention Item NED-4322 when writing ▲



# Get the benefits of MOTOR-GENERATOR BATTERY CHARGING

**for your INDUSTRIAL and LIFT-TRUCKS** *with* **HERTNER** *Fully Automatic*



**BATTERY CHARGERS**

● Completely automatic, Hertner Motor-Generator Battery Chargers save current and protect batteries against damage. Batteries may remain in trucks while being charged or may be individually charged when removed from truck. Not necessary for anyone to remain in attendance when a Hertner charger is in operation.

Hertner Motor-Generator Battery Chargers are designed for specific jobs:

**TYPE "H" CHARGERS** — for Lift-Truck Batteries

**TYPE "K" CHARGERS** — for other Electric Industrial Truck Batteries

● Both chargers are available in single-circuit units for charging one battery, and in multiple-circuit units (for charging two or more batteries simultaneously). They are furnished in standard units to fully charge lead-acid batteries in 8 hours and nickel-alkaline batteries in 7 hours.

*Overcharging is impossible* with these units, because the charging of individual batteries is governed by completely automatic controls which cut off each battery when it reaches full charge.

In case of current failure, the generator shuts off automatically, and when power is restored the motor-generator automatically restarts and charging is resumed.

*Tell us your charging requirements and we will gladly send Bulletins and complete information describing the Hertner Chargers that fit your needs.*

**THE HERTNER ELECTRIC COMPANY**
*A General Precision Equipment Corporation Subsidiary*
*Motors • Motor Generators • Generator Sets*
**12782 ELMWOOD AVENUE • CLEVELAND 11, OHIO**
*Representatives in principal cities throughout the world*

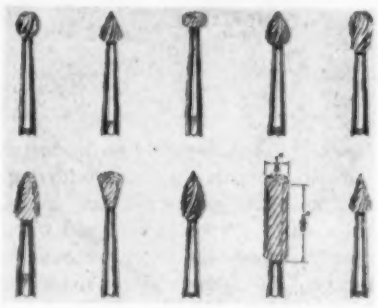
▲ Mention Item NED-4323 when writing ▲


## DUST CONTROL UNIT

Capable of handling sawdust and shavings from woodworking machines and grinding, buffing and polishing dirt from metalworking machines, this self-contained dust control unit is fully portable and can be set up to serve any machine for any length of time required. Unit is particularly recommended for use on machines located in isolated departments where central station type dust control system is not applicable or practical. Air volume is 900 cubic feet of air per minute at 2-inch suction. Capacity for four 3-inch, two 4-inch or one 6-inch pipe connections is available. Storage compartment capacity is 4 cubic feet. Made by **Kirk & Blum Mfg. Co.**, 2813 Spring Grove Ave., Cincinnati 25, O.

▲ Mention Item NED-4324 when writing ▲

## SMALL HIGH SPEED MILLS



High speed 3/32-inch shank Lab Mills are available in ten common shapes and six sizes for use in manufacture of jewelry, diesel injectors, aircraft parts, die castings, dies, molds, dentures and other small intricate parts. Mills are 1⅝ inches overall in length and can be supplied with cutting head diameters from 1/16 to 5/16-inch in 1/32-inch steps. Intermediate fractional sizes are available on special order. Mills are ground from solid metal after hardening. Made by **Severance Tool Industries Inc.**, 761 Iowa St., Saginaw, Mich.

▲ Mention Item NED-4325 when writing ▲

## TEMPERATURE INDICATOR

Facilitating recording of numerous temperatures in a short time, this Speedomax temperature indicator will handle more than 100 thermocouples. Indicator can be supplied to meet needs of practically any installation. Operator merely flips key switch marked for desired thermocouple and instrument's drum scale turns to indicate correct temperature. Indicator utilizes same case as strip chart Micromax and Speedomax recorders and will fit into standard panel cutouts for these instruments.

In addition to assuring rapid reading of temperatures, indicator has high sensitivity and accuracy. All commonly used ranges for industrial thermocouples can be supplied. Key switches can be colored for convenience in identifying points. Made by **Leeds & Northrup Co.**, 4934 Stenton Ave., Philadelphia 44, Pa.

▲ Mention Item NED-4326 when writing ▲

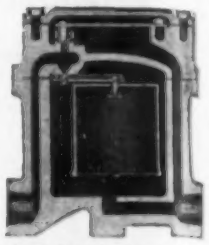
## DIAL FEED TABLE

Fast and efficient feeding of small parts to Multipress pressing station (*Item NED-7113, Dec. '44*) is facilitated by use of this dial feed accessory table. Feeder is actuated with each retracting stroke of press ram by mechanical linkage. Actuator can be adjusted to provide 8, 12 or 24 indexes per dial revolution. Provision is made for ejection of finished parts beneath table at station located 120 degrees in clockwise direction from pressing station. Accessory can be installed easily and quickly. It can be used for short run or production operations. Made by **Denison Engineering Co.**, 1152 Dublin Rd., Columbus 16, O.

▲ Mention Item NED-4327 when writing ▲


# Cost Cutters...The *correct* Clark Fluid Control will cut costs by saving fuel and increasing equipment efficiency wherever steam, air or gas are used.

**Write Today** for the free catalog that shows you how and where Clark Fluid Controls will save you money.



*Clark Fluid Controls are backed by 38 years of precision manufacturing experience.*

**Clark FLUID CONTROLS**

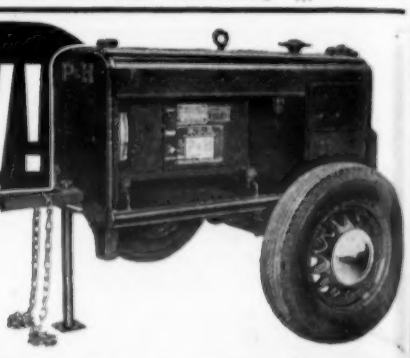
**THE CLARK MANUFACTURING CO. • DEPT. K • CLEVELAND 14, O.**

*Makers of a wide line of fluid controls including*
**STEAM AND FLUID TRAPS • VACUUM AND LIFTING TRAPS • STRAINERS VALVES • PRESSURE REGULATORS • REDUCING VALVES**

▲ Mention Item NED-4328 when writing ▲



# NEW!



# P&H Portable Arc Welder

*Write now for Bulletin W-70.*

Here is a new self-powered P&H Arc Welder for shop or field service — Model WN200. Simple to operate with just ONE control for any desired welding heat. Powered by 4-cylinder, air-cooled gasoline engine for low-cost operation. Has a Welding Service Range of from 30 to 260 amperes. Available as a stationary or portable unit.

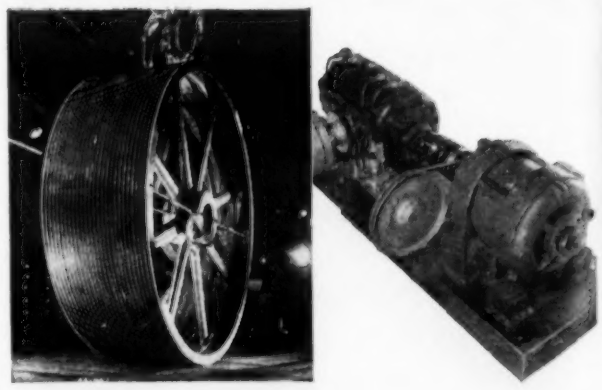
**P&H ARC WELDERS**
4537 West National Ave.
Milwaukee 14, Wisconsin

**HARNISCHFEGER CORPORATION**
ARC WELDERS • EXCAVATORS • ELECTRIC CRANES • P&H • MOTORS • HOISTS • WELDING ELECTRODES

▲ Mention Item NED-4329 when writing ▲



# For Big Drive or Small!



## TEXROPE*...Greatest Name in V-Belt Drives

WHETHER it's a sheave to transmit 1,400 horsepower, or one of only fractional horsepower for a pump, fan, or similar unit, *Texrope* provides the *best* in V-belt engineering and equipment. The *Texrope* line includes single or multiple V-belt drives for applications from fractional to 6,000 hp constant speed and 300 hp adjustable speeds. See our insert in Sweet's catalog or bring your power transmission problems to your nearest Allis-Chalmers office or dealer.

* Allis-Chalmers Trademark

**ALLIS-CHALMERS** MILWAUKEE 1, WISCONSIN

A 2268

▲ Mention Item NED-4330 when writing ▲

# Any Paint Stripped From Any Surface

**One-tenth the time . . . one-tenth the effort**

**Paint Flushed From Metal With Cold Water Rinse**
Even toughest coatings are quickly flushed off in cold water after applying remarkable TURCO PAINT-GON. Simply spray, brush or scrub on. Paint rinses off freely after 5 to 20 minutes. Non-inflammable, non-corrosive.

**Wood Stripped Clean Without Raising Grain**
Amazing new TURCO PAINT-ZIP strips paint from wood with remarkable ease, yet positively will not raise the grain. After wiping off with TURCO L-800, all gum and residue are removed and surface is ready for re-painting. Non-inflammable, gives off no dangerous fumes.

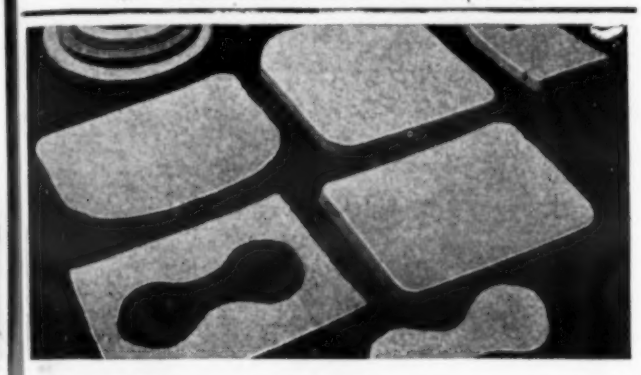
*Phone your nearest Turco Field Engineer or write Dept. NED 7.*

TURCO WOOD & METAL PAINT STRIPPERS

TURCO PRODUCTS, INC. Main Office & Factory: 6135 S. Central Ave., Los Angeles 1
Offices & Factories: 125 W. 46th St., Chicago 9 - 1606 Henderson St., Houston 1, Texas
New York Office: 21 West Street, New York 6 - Offices & Warehouses in All Principal Cities
D. W. Deane & Company Limited, 751 Victoria Square, Montreal 1, Canada

▲ Mention Item NED-4331 when writing ▲





**Versatile tufflex**

**Quickly Cut to Any Size or Shape!**

Yes, Tufflex—the new felted wood fiber material—is quickly fabricated to any shape or size, as shown above. But that's only ONE of many Tufflex advantages. Resilient, flexible and with high impact resistance, Tufflex is ideal for protective padding, cushion padding, and many another use. Tufflex insulates and deadens sound—is available in moisture-resistant, moldproof and flameproof forms. Non-abrasive and non-irritating, it stands up under punishment—does not shred or pull apart. Find out what Tufflex can do for *you*—for full information, write Wood Conversion Company, Dept. 127-77, First National Bank Building, St. Paul 1, Minnesota.

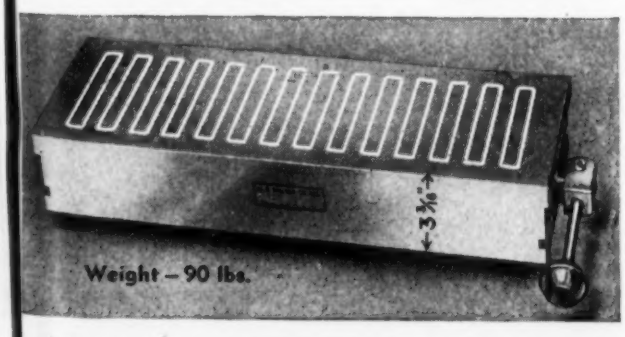
**tufflex*** MADE BY THE MAKERS OF *Balsam-Wool*

*REG. U. S. PAT. OFF.

▲ Mention Item NED-4332 when writing ▲



# WALKER *does it again*




THE lightest permanent magnetic chuck *ever* produced—weighs only 90 pounds.

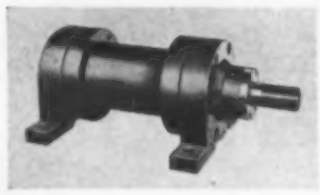
The new Permosix—only 3-3/16" high—allows more headroom than any other magnetic chuck. This feature, combined with increased holding power, due to fine pole division, means wider scope of production on either light hand-operated or power fed machines.

*Walker Chucks* are modern

**O. S. WALKER CO. Inc.**
WORCESTER 6, MASSACHUSETTS
*Original Designers and Builders of Magnetic Chucks*

▲ Mention Item NED-4333 when writing ▲

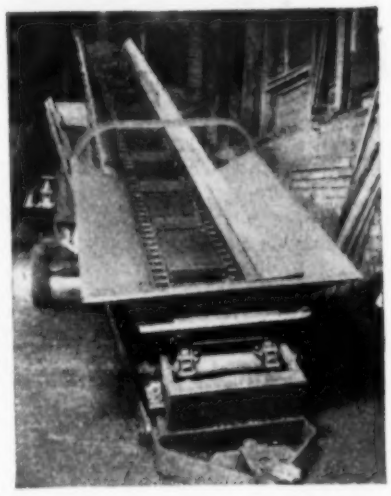

## OIL HYDRAULIC CYLINDER



Ports of this improved type oil hydraulic cylinder can be positioned easily and quickly to meet specifications of individual application. This feature simplifies piping. Unit is designed to operate on 1500 pounds per square inch working pressure and incorporates cylinder heads which are flame cut and machined from steel mill plate. Caps, flanges, cylinder tube, piston rod and C-rings are steel. Piston is aluminum alloy. Neoprene O-rings replace gaskets and sealing action is automatic. All screw heads are accessible from outside of cylinder. Made by Hydraulic Div., **Lindberg Engineering Co.**, 2444 W. Hubbard St., Chicago 12, Ill.

▲ Mention Item NED-4334 when writing ▲

## FLIGHT CONVEYOR

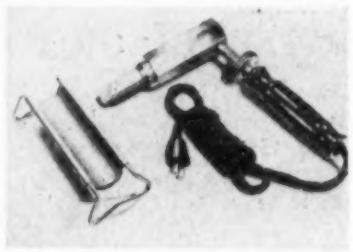


Available in 14 and 20-foot lengths, model CFL Tote-All portable flight conveyor will handle bulk material such as coal, dirt, ashes, grain and similar products at inclines up to 45 degrees. Unit is recommended also for handling hot castings. Two-inch flights bolted to steel roller chain on 1-foot centers assure minimum amount of product roll-back.

Conveyors can be powered by either electric motor or gasoline engine and will handle up to 60 tons per hour of 50-pound per cubic foot material. Maximum discharge height of 14-foot model is 10 feet and 20-foot model is 14 feet. Minimum discharge height of both models is 4 feet. Conveyor is mounted on Trail-Hoist combination trailer and hydraulic lifting device for easy moving from one job to another. Made by **Material Movement Industries**, 310 S. **Michigan Ave., Chicago 4, Ill.**

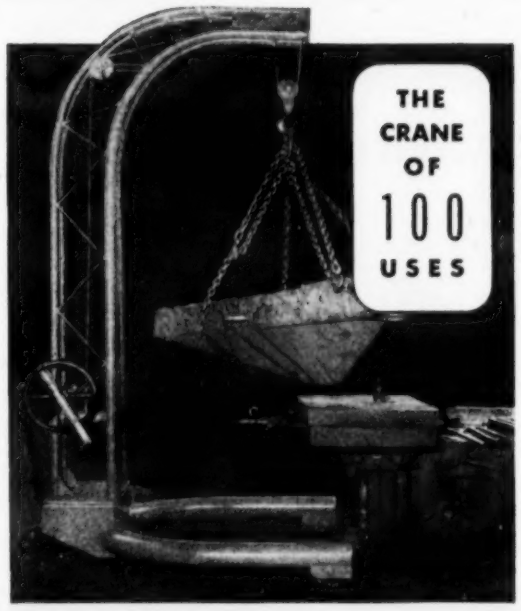
▲ Mention Item NED-4335 when writing ▲

## SOLDERING IRON



Hatchet type model No. 300 H soldering iron is balanced to permit operator to solder in a natural position. Heating element is housed in damageproof hexagonal shaped barrel which permits clamping in vise for easy tip removal without endangering element. Iron is equipped with 6-foot approved heater cord and shatterproof rubber plug. Heating elements are made of nickel-chromium resistance wire, and tips are hard drawn copper. Each iron is furnished with stand. Made by **Hexacon Electric Co.**, 145 W. Clay Ave., Roselle Park, N. J.

▲ Mention Item NED-4336 when writing ▲


**Lifting, transporting and stacking are only a few of the hundreds of manpower saving, material handling operations the "Canton" Portable Crane performs. Made of light tubular welded steel in 8 sizes; capacity: 1 to 3 tons.**

FOR FULL DATA, WRITE TODAY FOR BULLETIN N47

**The HILL ACME Company**
**"CANTON" DIVISION** 6404 Breakwater Ave CLEVELAND 2, OHIO

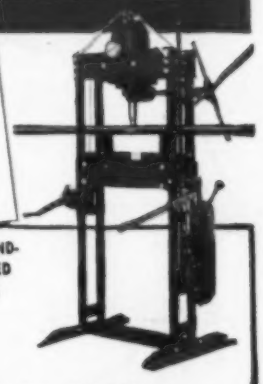
▲ Mention Item NED-4337 when writing ▲



*Save time* ON PRESSING, BENDING, STRAIGHTENING WITH A

# KRW HYDRAULIC ARBOR PRESS

INDISPENSABLE IN ANY SHOP ...HANDLES SHORT-RUN PRODUCTION WITH LOW-COST DIES ...AVAILABLE IN 25 TO 75-TON CAPACITIES, EITHER HAND-OPERATED OR MOTOR-DRIVEN, WITH VERTICAL OR HORIZONTAL RAM TRAVEL.



KRW HAND-OPERATED PRESS

The old conception of an arbor press is as different from the modern KRW Hydraulic Arbor Press as day is from night . . . now they are built in innumerable shapes, sizes and adaptations to work on hundreds of production jobs other than common straightening, bending and pressing work.

They are available as speedy Hand-Operated Presses; highly flexible Air-Operated Presses or as versatile and effortless Motor-Operated Presses. Then too, they are built in almost any conceivable physical form . . . tall, short, narrow, vertical or horizontal standing, as gap presses, forming brakes and many other designs. Mass production in a modern plant keeps KRW prices at rock bottom and quality at the highest possible peak. Write for the KRW illustrated Press Catalog.

Write Dept. 5.

**K. R. WILSON**
215 MAIN ST. BUFFALO 3, N. Y.

▲ Mention Item NED-4338 when writing ▲

# GAGES WHILE GRINDING

**—no stopping to mike the workpiece**

When you install a Federal-Arnold Continuous Grinding Gage *your hourly output increases . . . the cost per piece decreases.*

This gage controls dimensions at the machine *while the work is being ground.* You put the gage on the rotating workpiece and leave it there . . . when the Dial Indicator says the work is to size, *it is to size.* Even on short runs, the saving in scrap and the increase in output pay for your Arnold Gage in a very short while.

This instrument is easily installed and sturdily constructed to assure long life and continued accuracy.

You can use Arnold Gages to check straight, tapered or splined diameters; widths between or over shoulders; combined diameter and width. Write for Bulletin No. 59.

*MACHINE TOOL SHOW—BOOTH 47—SEPT. 17-26.*

FEDERAL PRODUCTS CORP., 1144 Eddy Street, Providence 1, R. I.

▲ Mention Item NED-4339 when writing ▲



# "Veeder-Readings"

ARE DIRECT READINGS

...THAT MINIMIZE CONVERSIONS, ERRORS, DELAYS

*Put an end to the setting and reading of hairline-graduated dials on all types of machines.*

Install a Veeder-Root Counting Device that will give direct and accurate *Count*rol over rate of feed, depth of cut, or any other phase of operation.

Then operators and inspectors get their Facts-in-Figures directly, plainly, *unmistakably* . . . in bold, easy-to-read figures that don't have to be converted, decoded or otherwise translated.

2217525

*The Counting House of Industry*
**VEEDER-ROOT INC.**
Hartford 2, Connecticut
*In Canada:* Veeder-Root of Canada, Ltd., 955 St. James St., Montreal 3. *In England:* Veeder-Root Ltd., Dickinson Works, 20 Purley Way, Croydon, Surrey.

▲ Mention Item NED-4340 when writing ▲

# RUGGED and RELIABLE!

**Bulletin 609**
**HAND-OPERATED STARTER**

Do you need a hand-operated starter that can take it? The Bulletin 609 is your answer. Its husky mechanism provides quick make and quick break contact action. The double break, silver alloy contacts never need cleaning or dressing. Thermal breakers provide reliable motor overload protection. Write for further information. Allen-Bradley Co., 1334 S. Second St., Milwaukee, 4, Wis.

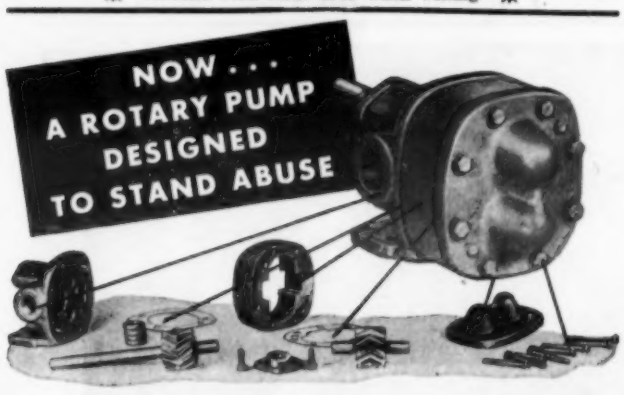
A-B Quality

**ALLEN-BRADLEY**
QUALITY
MOTOR CONTROL

▲ Mention Item NED-4341 when writing ▲



NOW . . . A ROTARY PUMP DESIGNED TO STAND ABUSE



**WORTHINGTON TYPE GA ROTARY FOR GENERAL LOW-CAPACITY SERVICE**

**SPECIAL HERRINGBONE GEARS** . . . quieter, more efficient than ordinary spur gears . . . eliminate axial thrust, prevent trapping, need less power.

**PRESSURE LUBRICATION** with liquid being pumped prevents contamination, keeps four large-capacity bearings at peak efficiency over a longer life.

**RATINGS:** 1.6 to 51 gpm from speed range of 850, 1150 and 1750 rpm . . . against pressures up to 100 psi.

**COMPLETE LINE:** foot or flange mounted . . . with or without relief valve . . . with packed stuffing box or with mechanical seal.

Write for Bulletin W-484-B10

**WORTHINGTON PUMP AND MACHINERY CORPORATION**
Merchandising Division, Harrison, N. J.

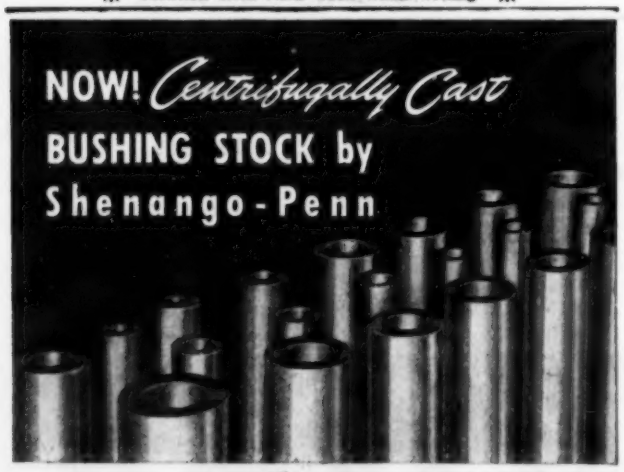
B6. 449

**WORTHINGTON**

▲ Mention Item NED-4342 when writing ▲



NOW! *Centrifugally Cast* BUSHING STOCK by Shenango-Penn



SEND FOR FREE BULLETIN NO. 145 *containing complete data on Shenango-Penn Bushing Stock ...ready for immediate shipment.*

IF you use bushing stock, why not get, at prevailing prices, the best that money can buy?

The same centrifugal techniques that make Shenango-Penn a preferred source of supply for long-lived, made-to-order bearings, bushings, sleeves, liners, rolls, etc., are now offered in Shenango-Penn tubular bushing stock! . . . ready to give you a big extra margin of safety, economy and service life.

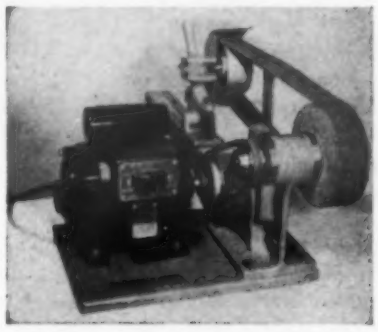
**SHENANGO-PENN MOLD CO.**
869 WEST THIRD ST., DOVER, OHIO
*Executive offices: Pittsburgh, Pa.*

SHENANGO-PENN

ALL BRONZES
MONEL METAL
ALLOY IRONS

▲ Mention Item NED-4343 when writing ▲


## BENCH TYPE BELT GRINDER



Adjustable to either vertical or horizontal positions, this bench type belt grinder has abrasive belt fully exposed for work. Since wear is on abrasive belt and not on supporting contact wheel, wheel remains flat and square at corners and maintains its diameter and balance. For grinding and polishing certain rounded or oval parts such as scissor handles, an additional formed resilient contact roll can be attached to grinder in place of platen.

Work such as grinding contours, following a pattern or cleaning otherwise inaccessible places can be accomplished on unsupported portion of belt. Made by **Porter-Cable Machine Co.**, 1710 N. Salina St., Syracuse, N. Y.

▲ Mention Item NED-4344 when writing ▲

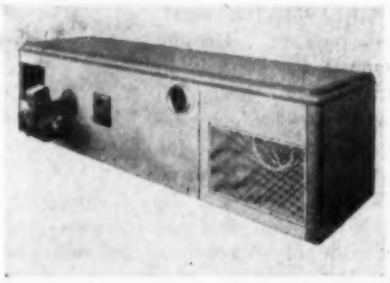
## PLASTICS PREHEATING OVEN

Utilizing moist convection heat process, Hydro-Therm plastics preheating ovens are available in four, six, nine, and twelve-drawer models to accommodate up to 50 pounds of preforms per charge. Ovens are heated electrically and operate on 110 or 220-volt single phase 60-cycle alternating current. Controls are automatic. Fan drives heated air down heat duct and vertically through oven chamber, affording heating range up to 400 F.

Moisture is admitted to oven chamber through built-in steam injector located in plenum chamber at base of oven. Heating elements are open coil type. Each drawer is 4 inches high and 24 inches deep and will hold eighteen 3 ounce preforms in vertical position. Preform release on each drawer disengages preform spacing prongs and allows instant bunching of entire load for quick transfer of preheated material to press. Made by **Despatch Oven Co.**, 512 Despatch Bldg., Minneapolis 14, Minn.

▲ Mention Item NED-4345 when writing ▲

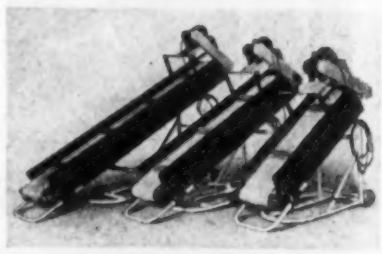
## SUSPENDED UNIT HEATER



Oil fired Shafco suspended unit heaters are suitable for single or multiple unit installations in all types of small or large buildings. They are self-contained horizontal forced warm air furnaces which are suspended on steel channels from building wall or roof trusses. In addition to saving floor space, heaters are easy to install and economical to operate. Units are fully automatic and can be operated independently of each other in multiple installations. Made by Sawyer Heating Co. and distributed by **Shafco Distributing Corp.**, 1354 Book Bldg., Detroit 26, Mich.

▲ Mention Item NED-4346 when writing ▲

## SMALL PRESS CONVEYOR

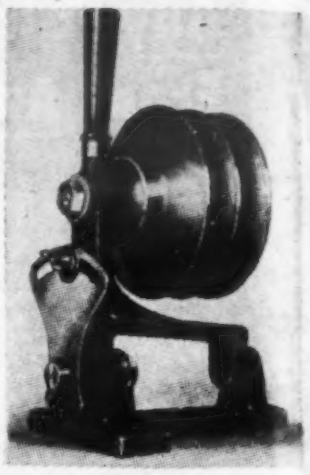


Added to line of Press-Veyor power belt conveyors, small model conveyor unit is designed for use between punch press machines to convey stampings through punch press operations and to dispose of scrap, as well as for other materials handling. Conveyor bed is 4 feet long while beds of two companion models illustrated measure 6 and 8 feet in length. Small model is adjustable from minimum height of 9 inches to maximum height of 30 inches at receiving end and from 39¼ to 61¼ inches at delivery end. It is equipped with lifting handles at both ends to afford quick adjustment to these levels.

Conveyor is fabricated of heavy gage formed steel and is powered by 1/3-horsepower gearhead electric motor, either 115-volt, 60-cycle single phase or 220-volt, 60-cycle three-phase alternating current. Belt is four-ply 32-ounce solid woven interbound cotton, and curved metal cleats facilitate bulk parts handling. Conveyor can be moved on wheels in same manner as hand truck. Made by **Rapids-Standard Co.**, Dept. PV-30, 342 Peoples National Bank Bldg., Grand Rapids 2, Mich.

▲ Mention Item NED-4347 when writing ▲

## VARIABLE SPEED CONTROL



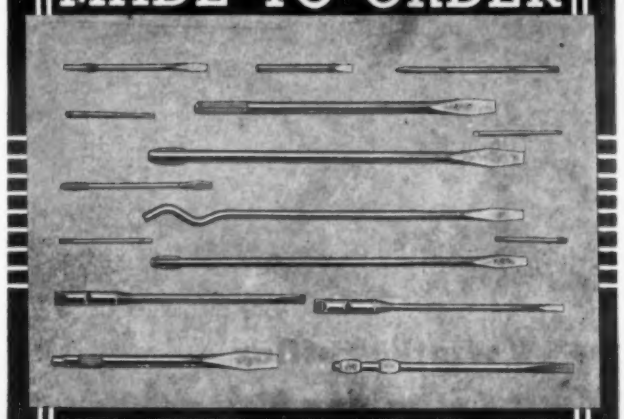
Variable speed control of V-belt and equipment up to a maximum 3 to 1 ratio is provided by this single lever controlled unit. Mechanically simple in design and sturdily constructed to withstand hardest service, models 1A and 2A Toledo variable speed controls have numerous unique features including: plain, smooth pulley, eliminating noise and vibration; stepless speed variation up to full 3 to 1 ratio; minimum pulley diameters are increased to transmit greater H.P. over entire range; new pulley design providing cylindrical bottom for V-belts which fixes minimum pitch diameters, preventing damage to belts and giving increased torque; single arm support, for easy belt application; large shaft, oilite bearings and lubricant reservoir; sector plate serving as dial indicator and additional locking medium; unusually attractive prices.

Wheel assemblies can also be purchased without mountings for application on machines providing built-in speed control.

If you have a variable speed control problem, either on plant equipment or on machinery you build for sale, investigate the Toledo variable speed control . . . you'll be interested in its efficiency and low price. Ratios as high as 10 to 1 are available. **The Toledo Timer Co.**, 2224 Albion St., Toledo, O. —Advt.

▲ Mention Item NED-4348 when writing ▲


**MADE TO ORDER**



Screw driver blades to order for assembly in any type of handle, wooden, composition or plastic.

Points in either keystone or cabinet type. Edge of point carefully made and of uniform thickness.

Shanks are winged, fluted, formed or milled, as shown.

Blades furnished in plain finish, blued or nickle plated.

*The Torrington Company*
SPECIALTY DEP'T.
*Torrington, Conn., U.S.A.*

▲ Mention Item NED-4349 when writing ▲



**HANSEN** *one-hand* **TACKER**

FAST
EFFICIENT
ECONOMICAL

MODERN, fast, efficient, the Hansen one-hand Tacker speeds up tacking, fastening, assembly jobs. Operates with one hand; leaves other hand free. Self-contained, ready for use.

Teamworking with this unit are Hansen precision made quality staples. Eighty different lengths and widths. Packed in distinctive Hansen BLUE BOX.

REQUEST FOLDER

HANSEN TACKER STAPLES

**A. L. HANSEN MFG. CO.**
5164 RAVENSWOOD AVE. CHICAGO 40, ILL.

▲ Mention Item NED-4350 when writing ▲

THE LIMA ELECTRIC MOTOR CO.
357 Findlay Road
LIMA, OHIO
REPRESENTATION IN MOST PRINCIPAL CITIES
LIMA GEARSHIFT DRIVES
LIMA PEDESTAL GRINDERS – LIMA ELECTRIC MOTORS

▲ Mention Item NED-4351 when writing ▲

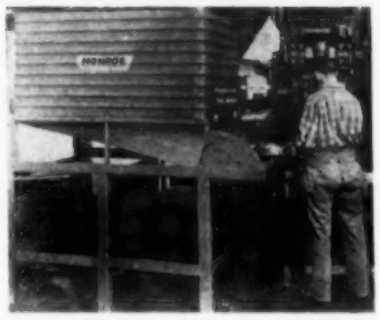

## COIN ACTUATED TIMER

Designed for use on all types of coin operated equipment, model No. 50-D dime operated timer can be furnished for time cycle intervals of 20, 30, 40, 60, 160 minutes or at the option of the operator. Unit is capable of accumulating a reserve of seven ten-cent pieces in its coin chute. Coin box has capacity of approximately $15 and timer will accept no coin thicker than a dime. Overlapping box edges discourage attempts at prying.

Frame of timer has three holes to permit mounting on a wood cabinet and finish which facilitates spot welding to steel cabinet. Fingertip operation of single latch allows servicemen easy access and they can slide timer out of frame without need of special tools. Made by **American Time Corp.**, 56 Main St., Springfield, Mass.

▲ Mention Item NED-4353 when writing ▲

## DROP BOTTOM SKID BOX



Facilitating the handling of small forgings, castings, stampings, screw machine and other small parts, this skid box has bottom panel hinged so that contents can be unloaded to floor or work table simply by removing supporting pins. Boxes can be used with ordinary lift trucks. They are constructed of corrugated hot rolled steel and are available in six sizes ranging in capacity from 1500 to 4000 pounds. Each box is equipped with skids for floor unloading. Stands to hold boxes are available as companion equipment. They will support boxes 41 inches above floor level to provide handy waist high work tables to hold materials released when boxes are emptied. Made by **Monroe Auto Equipment Co.**, Monroe, Mich.

▲ Mention Item NED-4354 when writing ▲

## SOLDERING IRON

Operating on direct current or from standard batteries of up to 32 volts, this Soldertrol soldering iron is furnished with interchangeable tips for coarse or fine work. When attached to standard 6-volt battery, iron will flow solder in 6 seconds. Thumb button located just below handle controls current flow and is spring loaded to "off" position to prevent inadvertent wasting of battery current. Wire leads are of convenient length and are fitted with universal clips for quick connection. Made by **Oiltrol Co.**, 2552 Fifteenth St., Denver 11, Col.

▲ Mention Item NED-4355 when writing ▲

Emblematic of faithful service to our country in its time of need, the honorable discharge emblem *points out* its wearers as upstanding men and women who did a good job . . .

Just as this badge designates a job well done, your product marking designates the outstanding quality in it. Its marking identifies it as yours, protects it and you, and facilitates handling in shipment.

**CAN MARKING EQUIPMENT**

Devices, manual or motorized, for embossing lids or for printing on curved or flat lithographed surfaces are available for complete, attractive identification of your product. Write for Bulletin B-2 for complete information.

Jas. H. Matthews & Co., for nearly a century the complete marking house, has the answer to your question of how to mark your product . . . a complete line of marking devices to suit every need. Consult us for the answer to your problem.

JAS. H. MATTHEWS & CO.
3943 FORBES STREET PITTSBURGH 13, PA.
BRANCH PLANTS
NEW YORK, BOSTON, CHICAGO, PHILADELPHIA, NEWARK, SYRACUSE
District Sales Offices: Cleveland, Cincinnati, Birmingham, Dallas

▲ Mention Item NED-4352 when writing ▲



Here's Information *You* Can Use!

GET THIS FREE Folder ON STAPLES!

● *It tells you how to obtain staples of guaranteed uniformity in any size, shape, type and wire, for every industrial use.*

● Titchener's 60 years of "know how"—skilled die makers, precision equipment, plus a modern plant completely equipped with automatic machines—all contribute to fast, economical mass production and prompt delivery of the widest variety of staples obtainable anywhere.

*Every purchasing agent, designer and production man should have a copy of this Titchener folder on Staples in his technical file.*

E. H. TITCHENER & CO.
79 CLINTON ST., BINGHAMTON, N. Y.

▲ Mention Item NED-4356 when writing ▲

NICHOLSON FLOATS FOR EVERY PURPOSE

In a new plant, we employ latest methods in producing welded floats for operating mechanisms and as H.P. storage vessels; wide range in metal, buoyancy, pressure. Nicholson floats are standard with hundreds of equipment makers.

*Bulletin 746*

**PROMPT DELIVERY IN:**

- Types for external and internal pressure applications.
- 10 standard shapes.
- 10 standard connections.
- Metals: Steel with chromium, cadmium or copper plating, Stainless Steel, Monel.
- Sizes: 2" to 14" diam.
- Pressures to 3,000 lbs.

W. H. NICHOLSON & CO. 162 OREGON ST. WILKES-BARRE, PA.
*Traps • Floats • Steam Specialties*

▲ Mention Item NED-4357 when writing ▲

*with a* LINK-BELT *Electric* CAR SPOTTER • *ONE man becomes a crew!*

This little giant capstan SAVES MONEY, SAVES TIME, SAVES MAN-POWER in industrial plants doing easily such back-breaking jobs as spotting cars, bending pipe, dragging heavy materials, warping barges, handling transfer cars, etc.

Modernize your "pull jobs" with this equipment that quickly repays its cost, often on demurrage alone. Made in two sizes, 5 or 10 HP motors for pull of 5,000 or 10,000 lbs. forward or reverse speed of 45 F. P. M.

10,625

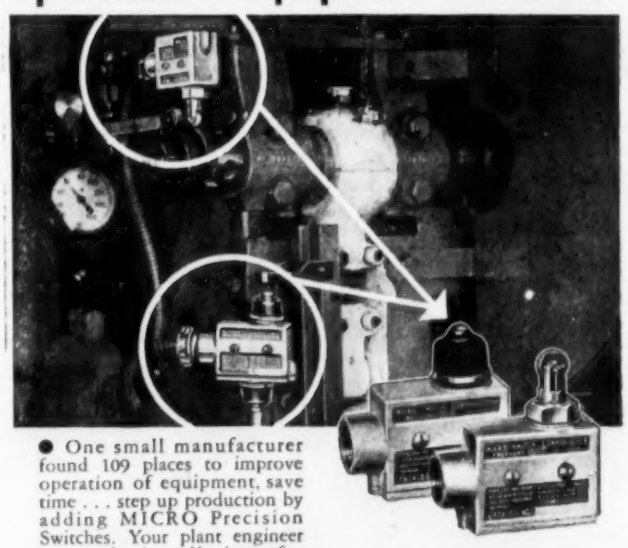
WRITE TODAY for illustrated Book No. 1992. It gives full details.

LINK-BELT COMPANY
2410 W. 18th St., Chicago 8, Illinois

▲ Mention Item NED-4358 when writing ▲



MICRO Precision Switches . . . Make Operation of Equipment Automatic



● One small manufacturer found 109 places to improve operation of equipment, save time . . . step up production by adding MICRO Precision Switches. Your plant engineer can make installation of a MICRO Precision Switch operated by roller, slide or plunger actuation to act as a safety, interlock, limit control or to make equipment automatic.

Sales representatives or branches listed below will furnish list of switches.

MICRO *Precision Switches*

© 1947, First Industrial Corp.

BRANCH OFFICES
CHICAGO 6 ..... 308 W. Washington St.
NEW YORK 17 ..... 101 Park Avenue
CLEVELAND 3 ..... 4900 Euclid Avenue
LOS ANGELES 14 ..... 1709 West 8th St.
BOSTON 16 ..... 726 Newbury Street

MICRO SWITCH
A DIVISION OF FIRST INDUSTRIAL CORPORATION

SALES REPRESENTATIVES
PORTLAND, ORE. ..... 517 S. W. Oak Street
DALLAS 4 ..... 2506 McKinney Ave.
ST. LOUIS 3 ..... 1218 Olive Street
TORONTO, Ontario, Can. ..... 11 King St.

▲ Mention Item NED-4359 when writing ▲

SABIN Type "L-3" ONE MAN TRUCK

MODERNIZES DRUM AND BARREL HANDLING

ELIMINATES THIS EXTRA LABOR COST

You can eliminate helper cost and make it easy for ONE MAN to load weights up to 800 lbs. with this Sabin truck. The trucker simply slides hook on at top of container, pulls back the handle and load is ready for transfering.

Roller bearings, and better balance made possible by Exclusive Third-Wheel Feature, make travel easy.

WRITE FOR BULLETIN No. 45

THE SABIN MACHINE CO.
6536 Carnegie Ave.,
CLEVELAND 3, OHIO

ALSO TOTE PAN, BOX, CARBOY, KEG TRUCKS!

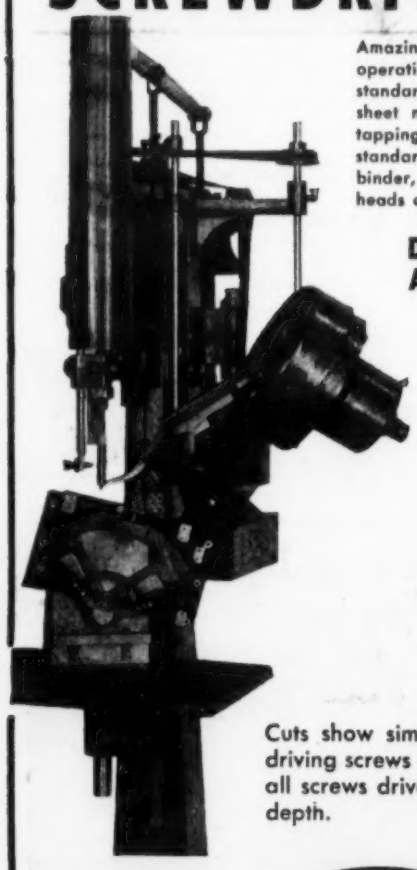
▲ Mention Item NED-4360 when writing ▲



HELP *Speed* PRODUCTION SCHEDULES

with

DETROIT POWER SCREWDRIVERS



Amazing speed—ease of operation! — Will drive standard machine screws, sheet metal screws, self-tapping screws with standard round, flat, binder, fillister, or hex heads and special heads.

DRIVES SCREWS AT ONE SECOND EACH

ALL SCREWS DRIVEN TO UNIFORM TENSION

NO MARRING OF HEADS

Cuts show simple fixture for driving screws on an arc, with all screws driven to the same depth.

Note simplicity of fixture for moving assembly from screw hole to screw hole.

Complete assembly of 22 screws driven in 45 seconds.

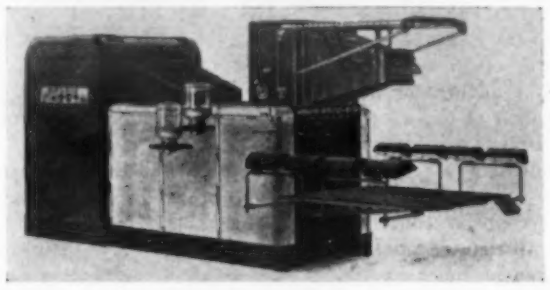
DETROIT POWER SCREWDRIVER CO.

2819 WEST FORT ST. • DETROIT 16, MICHIGAN

▲ Mention Item NED-4361 when writing ▲


## PHOTOCOPY MACHINE

Serving as photocopy camera and automatic processing unit, this Foto-Flo machine can maintain continuous flow of sixteen 8 x 10-inch prints per minute or up to four 18 x 24-inch



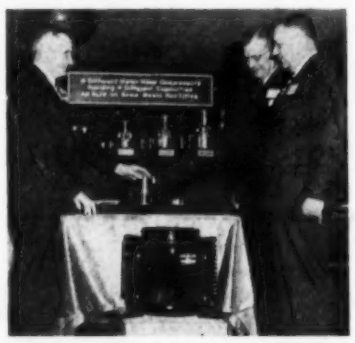
exposures per minute. It copies photographs, drawings, records and documents of various kinds and sizes. It can be used to blow up copy two times or reduce copy to one-half size. With microfilm projector as accessory unit, it will make enlargements from microfilm.

Dial controls permit regulating length of paper from 8 to 24-inches for exposure in steps of 1 inch. Developing time is 1 minute 10 seconds per 18 x 24-inch print; short stop is 35 seconds per print; fixing time 2 minutes 20 seconds; and washing time is 2 minutes 20 seconds. Pushbutton control unit controls time of exposure, feeding of paper and cutting off to size.

Machine has capacity of 30 gallons of developer, 16 gallons of short stop, 48 gallons of hypo and 70 gallons of water. Developer and hypo are maintained automatically by gravity feed auxiliary tanks. Machine will accommodate 700-foot roll of sensitized paper 18 inches wide. Prints travel automatically through self-contained processing units. Machine is 15 feet long, 5 feet 5 inches wide and 7 feet high. Power required for operation is four-wire, 220-volt, 60-cycle, 50-ampere current. Made by **Haloid Co.**, 413 Haloid St., Rochester, N. Y.

▲ Mention Item NED-4362 when writing ▲

## REFRIGERATION UNIT

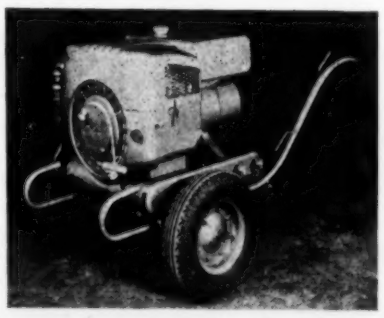


Contained in single unit and employing compressor that has only two moving parts, Frigidaire Meter Miser commercial and industrial refrigeration unit is available in three models. Compressor ratings are ¼, 1/3 and ½-horsepower. Unit can be disconnected readily and reinstalled as required. Light in weight, models weigh 85, 95 and 110 pounds. Utilizing Freon-12 refrigerant, unit employs two filtering media that exclude foreign matter from gas. Compressor and motor operate in bath of oil which lasts life of unit. Two smaller models operate on 115-volt, 50/60-cycle current and largest unit is available for 115 or 230-volt, 50/60-cycle current.

Two smaller sizes are 16 inches high and 17½ inches in diameter over condenser. Depth is 20⅛ inches. Larger model is 18-7/16 inches high and 17½ inches in diameter. Depth is 20⅛ inches. All models have output temperature range from −21 to 36 F. Two-way service suction valve has outlet for gage connection. Liquid valve at receiver permits liquid refrigerant pumpdown. Convenient purge valve is provided to be used as gage connection for high pressure side. All electrical controls and relays are grouped in large control box with removable cover at one side of unit. Made by Frigidaire Div., **General Motors Corp.**, Dayton 1, O.

▲ Mention Item NED-4363 when writing ▲

## PORTABLE ARC WELDER



Available mounted on two-wheel dolly with pneumatic tires and as stationary type with guard frame, portable gasoline engine driven Sureweld direct current arc welder is lightweight unit capable of handling electrodes to 3/16-inch in diameter. Stationary type welder which weighs 315 pounds can be placed in any truck or in trunk of most automobiles for transporting to field jobs or locations remote from electric current. It can be hoisted to roof or elevated positions for operation close to welding job. Its portability makes possible use of cables shorter than usual resulting in minimum loss of amperage. Generator is four-pole, self-excited type with interpoles. Welder is rated at 150 amperes at 30 volts on 50 per cent duty cycle. Gasoline engine is of four-cycle, two-cylinder opposed design with turbine-type fan for air cooling. Two receptacles are provided for extension cords to permit emergency lighting. Made by **Hollup Corp.**, Dept. P1, 205 W. Wacker Drive, Chicago, Ill.

▲ Mention Item NED-4364 when writing ▲


"PIONEER" STEEL SHAFT HANGERS

Thousands upon thousands of these "Pioneer" Steel Shaft Hangers are in daily use—and have been ever since 1914. They are unbreakable—their superior strength and rigidity make them dependable. They are one-third lighter than the old style cast-iron hangers, *and therefore cost less f.o.b. ceiling—and that's what counts.* Cut costs of handling, hauling and millwrighting by using "Pioneer" Steel Shaft Hangers, made by the manufacturers of the famous "Hallowell" Ready-Made Shop Equipment of Steel and "Unbrako" Screw Products.

*OVER 44 YEARS IN BUSINESS*

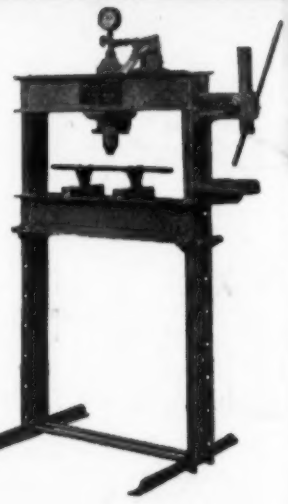
STANDARD PRESSED STEEL CO.
JENKINTOWN, PA. BOX 581
BOSTON • CHICAGO • DETROIT • INDIANAPOLIS • ST. LOUIS • SAN FRANCISCO

▲ Mention Item NED-4365 when writing ▲



The Economy MANCO 25-ton Hydraulic Press

*...only $160**



You can have dependable hydraulic pressure at surprisingly low cost with a Manco Press. It handles a wide variety of pressing, straightening, bending, flattening, broaching, assembling and other operations. This economical, well-built press cuts costs and saves money. Self-contained! Hand operated! Quick application of power—ram travels ⅛" per stroke. Adjustable bolster. Press does work formerly considered only possible on larger, heavier and more costly equipment. Ask your dealer, or write giving his name and address, for details. Manco Products Co., State and Hay Streets, York, Pa.

SPECIFICATIONS:

| | | | |
|---|---|---|---|
| Capacity | 25 tons | Width between table channels | 5½" |
| Distance between uprights | 30" | Overall height | 60" |
| Ram diameter | 2¾" | Floor space | 34" x 27½" |
| Ram travel | 4½" | Weight, with arbor press | 420 lbs. |
| Table travel | 35" | | |

* F. O. B. York, Pa. Pressure gauge and 2-ton rack and pinion arbor press are extra. Price subject to change. Immediate delivery.

MANCO HYDRAULIC PRESS

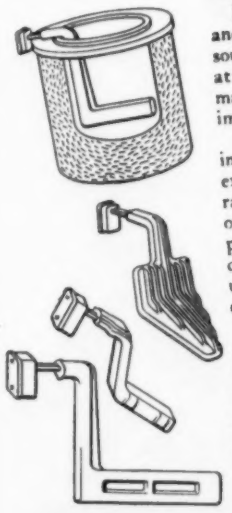
MOVE PRESS TO WORK *instead of* WORK TO PRESS

▲ Mention Item NED-4366 when writing ▲



"How-to-heat" notes

3. METAL MELTING with Economy and Accurate Control



It's easy to melt lead, solder, tin, and babbitt with almost any heat source. *But*—to maintain these metals at exact working temperatures demands the accurate control of electric immersion heating.

G-E Calrod* immersion heaters—in standard G-E pots, or adapted to existing pots—efficiently control the rate of heating, provide uniformity of temperature, and assure correct pouring conditions. This means less dross, less waste, and superior products—plus cleaner, cooler working conditions.

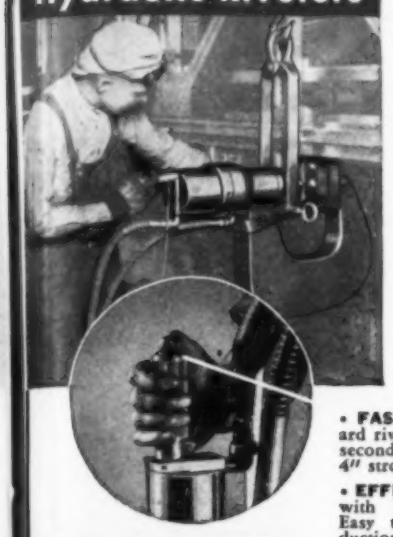
G-E metal-melting pots are available up to 4500 pounds capacity. Or, G-E immersion heaters can be easily adapted to existing pots. Complete pots from $32; immersion heaters only, from $23. **SEND FOR FREE CATALOG GED-650C.** *Apparatus Department, General Electric Company, Schenectady 5, N. Y.*

*Reg. U.S. Pat. Off.

GENERAL ELECTRIC

▲ Mention Item NED-4367 when writing ▲

**HANNIFIN**
*"hy-power"*
**Hydraulic Riveters**



**Designed and Built for BETTER, FASTER Riveting!**

For better riveting, use Hannifin's "hydraulic squeeze" riveting action with either hot or cold rivets . . . For faster riveting, get it with Hannifin "HY POWER" units . . . For prompt, dependable help in getting tooled-up for efficient production, take advantage of Hannifin's vast store of experience.

• **FAST.** Time cycle for standard riveters ranges from 1-1/2 seconds to 3 seconds for 3" or 4" stroke units.

• **EFFICIENT.** More work with less effort, no noise. Easy to maintain high production rates.

• **COMPLETE LINE.** Standard and special designs available for every purpose. Send for a copy of interesting, illustrated Bulletin No. 53-R.

• **PUSH BUTTON CONTROL.** A single push button gives complete control—thanks to Hannifin's exclusive "HY-POWER" Hydraulic Pressure Generator.

**HANNIFIN CORPORATION**
**1101 So. Kilbourn Ave., Chicago 24, Ill.**

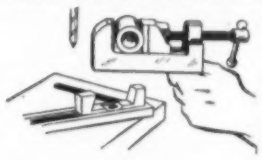
Mention Item NED-4368 when writing

**"YANKEE" VISE and VISE CLAMP**

**short cut set-ups**

Set up a job just once in a "Yankee" Vise and it remains securely aligned through each step. Lift it off the swivel base on the bench and set it on the "Yankee" Vise Clamp on face plate of drill press . . . and back again to the bench. Sides, bottom and front end accurately machined. Grooved V-block for holding rounds. Makes fussy jobs simple and fast. Your industrial distributor likes to sell "Yankee" Tools because they're "willing tools". No. 1993 "Yankee" Vise and No. 2993 "Yankee" Vise Clamp illustrated.

Write today for illustrated "Yankee" Tool Book.



YANKEE TOOLS NOW PART OF STANLEY
THE TOOL BOX OF THE WORLD

**NORTH BROS. MFG. CO.**
**Philadelphia 33, Pa.**

Mention Item NED-4369 when writing



**Skylift Wins on "Point-Test"!**

**FEATURE FOR FEATURE . . . SKYLIFT OUTPOINTS ALL OTHER FORK TRUCKS**

1. The only hydraulic electric truck with automotive type controls.
2. Single operating handle for lift and tilt control.
3. Can lift, tilt and drive simultaneously or independently under all load conditions.
4. Forks elevate full height of first lift without increasing overall height.
5. Automatically controlled pre-set lowering speed.
6. 130" lift with 83" collapsed height of uprights.
7. Dual chains are load equalized and fully compensated.
8. Carriage equipped with special design thrust rollers.
9. Reversible drive wheels.
10. All wheels demountable without disrupting wheel bearing adjustment.
11. Full contactor control.
12. Automatically timed master controller (NEWmatic).
13. Foot accelerator pedal for speed control.
14. Disc type brake.
15. Automatic tilt stops in backward, vertical and forward positions.
16. Silicone varnish for motor insulation.

**PLUS THESE ALL-STAR FEATURES:** Dead-man control · Caster type steering axle · Center control · operator's position accessible from both sides · Low center of gravity.

*Write for "Point-Test" Comparisons*

**Skylift** ELECTRIC TRUCK — A PRODUCT OF AUTOMATIC

**AUTOMATIC TRANSPORTATION CO.**
DIV. OF THE YALE & TOWNE MFG. CO.
81 W. 87th St. • Dept. K-7 • Chicago 20, Illinois

Mention Item NED-4370 when writing


# NEW *Processes* AND *Materials*

## INDUSTRIAL DEODORANT

Having marked affinity for odor producing gases which irritate olfactory organs, Odorid industrial deodorant is powder material that deodorizes putrescent areas and purifies air by killing odor gases at their source. Powder is effective in both dry and wet states. It is chemically inactive, gives off no chemical substances, and is nontoxic, noncaustic and noncorrosive.

Deodorant is recommended for use in plant cafeterias and eating rooms. A small amount can be used in toilets to loosen and remove putrid areas which cause clogging and emanation of foul gases. When mixed with cleaning water, material will attack odor producing substances lodged in baseboards, floor boards and cracks in flooring. It is easy to handle and will not harm materials. Deodorant is available by ton or 50-pound bag. Free sample is available. Made by **Odorid Products Corp.**, 7016 Euclid Ave., Cleveland 3, O.

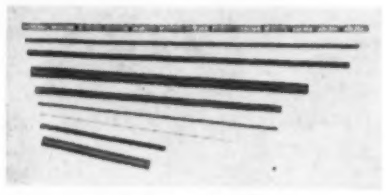
Mention Item NED-4371 when writing

## ALUMINUM CLEANER

Recommended for cleaning aluminum and other metals, Optimus No. 101A compound is balanced blend of medium duty alkaline cleaner, water softening materials and inhibitors which prevent attack on metals. This mild, nonetching cleaner is particularly effective for removing dirt, grease and oil. It can be used as soak cleaner for nonferrous metals such as die castings, brass, bronze, pewter, etc. and also for hot tank applications. Cleaner can be used in small concentrations with temperature ranging between 140 and 180 F. It is available in 100 and 400-pound containers. Made by **Optimus Detergents Co.**, 130 Water St., Matawan, N. J.

Mention Item NED-4372 when writing

## CEMENTED CARBIDE RODS



Lengths of unground solid Carboloy cemented carbide rod in both random and specific lengths are available in fifteen standard stock diameters ranging from 3/64 to 3/8-inch. Stock allowance on diameter is from 0.007 to 0.012-inch on smallest size and from 0.022 to 0.05-inch on largest size. Random lengths furnished vary from 4 to 12 inches with sufficient stock to compensate for rough ends. Price range is from 12 cents for smallest diameter to $3.01 for 3/8-inch diameter size. Made by **Carboloy Co.**, 11163 E. Eight Mile Rd., Detroit 32, Mich.

Mention Item NED-4373 when writing


*If your product uses* **HEAT**
*Specify* **THE NEW FENWAL APPLIANCE THERMOSWITCH* Control**

**Safe · Accurate · Long-Lasting Temperature Control For All Types Of Electrical Appliances**

*T.M. Reg. U. S. Pat. Off.

The unique and rugged design of the new Fenwal Appliance THERMOSWITCH Control provides a heat control unit that will withstand shock, vibration, tampering and other operational hazards that lower product life . . . *and influence buying attitudes.*

The Appliance THERMOSWITCH Control is available in models especially designed for both high and low temperature ranges. The high temperature model provides control over the wide range of 50°F.—600°F. The low temperature model provides extremely critical control for low temperature applications throughout its range of 50°F.—250°F.

*Write for complete information.*

Fenwal **FENWAL INCORPORATED**
31 PLEASANT STREET, ASHLAND, MASSACHUSETTS

Mention Item NED-4374 when writing

**MERCURY SWITCHES BY MERCOID**
HAVE THE ENDURANCE OF PROVIDING
**MILLIONS**
OF "MAKES" AND "BREAKS" IN THE ELECTRICAL CIRCUIT

THEY ASSURE FULL PROTECTION AGAINST SWITCH TROUBLES

USED EXCLUSIVELY IN ALL TYPES OF MERCOID CONTROLS

DA (Double Adjustment) Pressure Control

**MEANING**
BETTER AND MORE DEPENDABLE CONTROL PERFORMANCE INCLUDING MUCH LONGER AUTOMATIC CONTROL LIFE, FOR HEATING AND AIR CONDITIONING EQUIPMENT—ALSO FOR NUMEROUS IMPORTANT INDUSTRIAL APPLICATIONS

THE MERCOID CORPORATION, 4201 BELMONT AVENUE, CHICAGO 41, ILL.

Mention Item NED-4375 when writing



*There's only* **ONE** *Rust Proof*
**"RED WHEEL" CONVEYOR**
and it's made by Buschman

For any package handling job at all, be sure you specify Buschman rustproof "RED Wheel" Conveyors. They stand the gaff . . . even in wet or damp locations. Buschman "Red Wheel" Conveyors can be set up in a jiffy . . . they cost no more . . . offer better service and easily outlast the conventional type. For full details, ask for Bulletin 10.

**THE E. W. BUSCHMAN COMPANY**
Spring Grove at Winton Pl. Cincinnati 32, Ohio

Mention Item NED-4376 when writing



**Many Problems in Motion Can be Solved by the Use of**
**AIR as POWER**

No longer is the use of air power in many machine operations prohibitive because of slow action, massive bulk and limited stroke, not to mention the all important factor of economy.

Fenn custom-built air cylinders eliminate the traditional objections to the use of standard air cylinders. For instance—

Look at the Specifications of This Air Cylinder Custom-Built by FENN.

O.D. 11/16"
STROKE 42"
Speed 60 CY/MIN
VALVE INTEGRAL

FENN *does not* manufacture a line of standard air cylinders.

FENN *does* design and produce in any quantity air cylinders to do a specific job efficiently and economically. FENN Custom-Built Air Cylinders provide accurate control of the piston velocity curve; they can be cushioned at either or both ends of the stroke; valves can be integral.

FENN cylinders will frequently deliver greater power from available air pressure with savings of space and with valuable air economy. Write us about your particular problem.

*The* **FENN** *Manufacturing Company*
DEPT. ED HARTFORD, CONN.

Mention Item NED-4377 when writing

Guaranteed not to shrink. ★ Bonds perfectly with old floor. ★ Compression strength three times that of concrete. ★ Abrasion resistance four times that of concrete. ★ Absolutely impervious to oil. ★ Ready-mixed — add water and apply. ★ Harder, tougher, more durable than the original floor.

*Write today for Bulletin 121*

DO IT RIGHT WITH HALLEMITE

THE HALLEMITE MANUFACTURING CO.
CLEVELAND 13, OHIO

▲ Mention Item NED-4378 when writing ▲



For
LUMBER
PAPER
LEATHER
COTTONS
WOOLENS
. . . rough or smooth surfaces

TEST MOISTURE CONTENT
*in three seconds*

Save time—eliminate guesswork in Moisture content determinations.

Moisture Register does both, because it tests quickly and accurately down to 0% at the press of a button. No points to break off or injure material. It's completely portable and easy to use. Based on the principle of high frequency, power absorption, there's a model to meet your requirements.

Insure against moisture testing troubles. Write today for complete information, specifying type of material and range of moisture content to be tested. Moisture Register Company, Dept. H, 133 North Garfield, Alhambra, California.

ELECTRONIC MOISTURE REGISTER
The standard in moisture testing

▲ Mention Item NED-4379 when writing ▲



EXCLUSIVE
ONLY ONE FLOOR PLATE GIVES YOU THESE ADVANTAGES
GRIP WITHOUT A SLIP!
EASY TO CLEAN!
EASY TO MATCH!
AW SUPER-DIAMOND
FLOOR PLATES THAT GRIP
*Pattern Illustrated ½ Actual Size*

A Product of ALAN WOOD STEEL COMPANY
CONSHOHOCKEN, PENNA.

FREE A Copy of Our New 16 Page Booklet L-35. It gives maximum sizes and helpful information. Mail this coupon now.

Name_____
Company_____
Address_____
City_____ State_____

▲ Mention Item NED-4380 when writing ▲


## New Processes & Materials

### ACOUSTICAL CEILING BOARD

Designed for use with recessed type fluorescent light troffers to form low cost suspended ceiling, Fiberglas acoustical board has high sound absorbing properties. Material can be used in both new construction and remodeling present interiors. Board is laid between continuous troffer rows for installation. Composed of processed glass fibers treated with thermosetting resin, board is available in sizes 25½ by 48 inches and 24 by 48 inches. Thickness is 1 inch.

Board is beveled and cross-grooved to simulate tile and is painted white. Light reflection coefficient is 0.75 to 0.80. It is noncombustible, will span 24 inches without sag and weight is approximately 0.75-pound per square foot. Material gains less than 1 per cent in weight by moisture absorbtion. Made by **Owens-Corning Fiberglas Corp.**, Nicholas Bldg., Toledo 1, O.

▲ Mention Item NED-4381 when writing ▲

### RAYON CORD CONVEYOR BELT

High tensile strength is imparted to Ray-Man Tension-Master belt by use of rayon cord plies as strength member. Belting is suitable for use in coal and metal mines, quarries and limestone plants. Advantages claimed for belt are easy troughing; resilience of fiber; adaptability with conventional type idlers and pulleys; field splicing with conventional methods; and fact that construction modifications can be made to suit varying service conditions. Made by **Raybestos-Manhattan, Inc.**, Manhattan Rubber Div., 94 Townsend St., Passaic, N. J.

▲ Mention Item NED-4382 when writing ▲

### LAPPING COMPOUND

Prepared in choice of stick or tube form, diamond grit compound is available in eight grades of fineness and facilitates mirror finish surfacing of carbide and steel cutting tools, molds and cavities for glass, steel and plastics; plug gages, punches and similar cylindrical objects; production parts; rolls for all types of foil and sheet, and dies. Diamond grit ranges in fineness from approximately 120 microns for coarse cutting to approximately 1 micron for very fine cutting. Stick form has consistency of lipstick. Tube contains compound in paste form. Both types are supplied with case hardened steel roller for applying and spreading compound.

Each of the eight grades of compound is identified by color. Black identifies coarsest cutting material and white identifies finest material. Intermediate colors are red, brown, green, blue, orange and yellow in order from coarse to fine. Kits contain any desired combination of compounds. Made by Industrial Processing Div., **Magnus Chemical Co.**, Dept. NED, Garwood, N. J.

▲ Mention Item NED-4383 when writing ▲


A NEW . . . . . RULING PEN

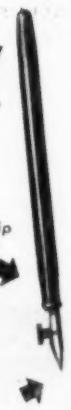
VEMCO
Microliner

BALANCED to fit your fingers *naturally*—like a good writing pen—the outstanding new, VEMCO MICROLINER ruling pen will get your work done easier . . . and with greater accuracy.

You hold the MICROLINER close to the blades—for comfort and better control. The streamlined plastic handle is shaped for non-tiring, continuous use.

Blades made from finest octagonal, surgical steel, are ground to a fine finish. Nibs are *hand* ground for superior ruling of the finest line and are scientifically designed for proper ink flow.

Compare the VEMCO with any ruling pen you've ever used. At your dealer NOW, priced at $3. If not yet in stock, send us dealer's name together with price and the MICROLINER will be sent post paid.

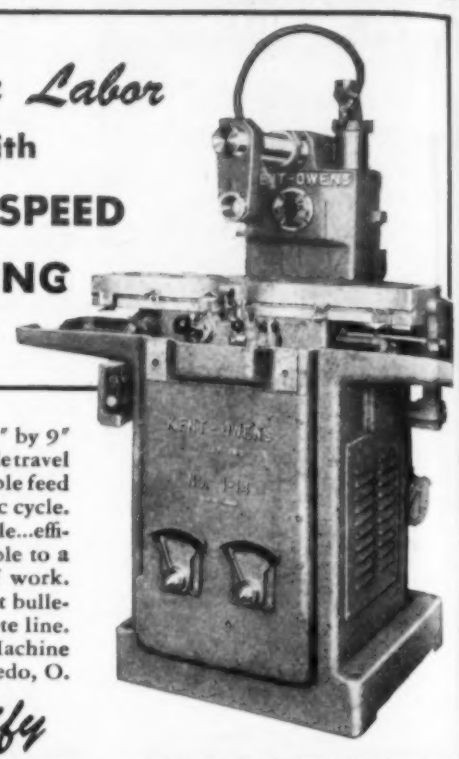



V. & E. MANUFACTURING CO.
P. O. Box 950 • Pasadena 20, California

▲ Mention Item NED-4384 when writing ▲



*Save Labor* with TOP SPEED MILLING ★



No. 1-14 . . . 32" by 9" table . . . 14" table travel . . . hydraulic table feed . . . full automatic cycle. Rugged . . . simple . . . efficient . . . adaptable to a wide range of work. Write for latest bulletins on complete line. Kent-Owens Machine Company, Toledo, O.

*Specify*
KENT-OWENS
*Milling Machines*

▲ Mention Item NED-4385 when writing ▲



DETECTO SCALES

There's a precision-accurate Detecto Scale for your specific weighing and counting need. The Detecto helps increase production, yet assures you maximum accuracy by making slightest weight discrepancies immediately visible.

DETECTO HEAVY DUTY SCALE
Another Detecto-Gram scale for many industrial uses speeds production. Hairline accuracy in a heavy scale! Special indicator eliminates overweight. Platform size, 10½" x 14". Overall height, 32". Capacity, 200 lbs. Immediate delivery. Write for full description.

DETECTO · SCALES · INC.
MAKERS OF FINE SCALES SINCE 1900
507 MAIN STREET • BROOKLYN 1, N. Y.
SCALE ENGINEERS IN ALL PRINCIPAL CITIES

▲ Mention Item NED-4386 when writing ▲



SMOOTH POWER *Two-Cylinder*

The NEW ONAN
*AIR-COOLED*
10 H.P. 4-CYCLE
"CK" ENGINE

Onan 4-cycle "CK" gasoline engines are 10 h.p. air-cooled prime movers built for heavy-duty service. Unusually compact, light weight (97 lbs.), completely equipped, easy-to-install.

ONAN AIR-COOLED ENGINES: CK—2-cylinder opposed, 10 h.p. 8H—2-cylinder opposed, 5.5 h.p. COM-1B—1-cylinder, 2.5 h.p.
ONAN ELECTRIC PLANTS: A.C.—350 to 35,000 watts. D.C.—600 to 10,000 watts. Battery Chargers—500 to 6,000 watts.

- Heavy-duty
- Smooth power
- Super cooling
- Compact
- Aluminum construction
- Electric starting available

WRITE FOR SPECIFICATIONS

*Immediate Delivery*

D. W. ONAN & SONS INC.
3670 Royalston Ave. • Minneapolis 5, Minn.

ONAN *4-Cycle* ENGINES

▲ Mention Item NED-4387 when writing ▲

# WELDMENTS
*by AMERICAN WELDING*

Designed to give the most advantageous distribution of material over the cross section, this weldment replaces a casting and saves 93 pounds. Machining time is appreciably reduced by the balanced design which permits fabrication to relatively close tolerances.

Our engineers are familiar with all types of manual or automatic electric arc, gas, and resistance welding. We are confident that our representatives can show you where our facilities can be of service to you in meeting cost and weight problems. Write for our illustrated catalogues.

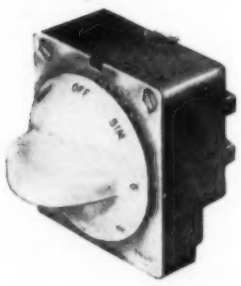
THE AMERICAN WELDING & MANUFACTURING CO.
5000 GRISWOLD ST. • WARREN, OHIO

▲ Mention Item NED-4388 when writing ▲



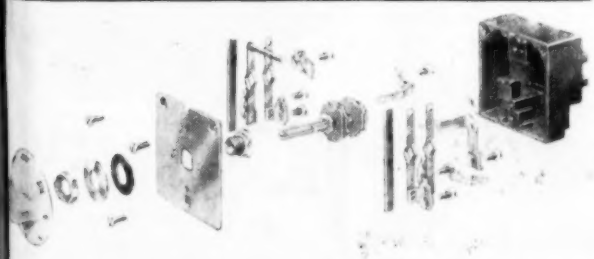
*Pick* H

# SWITCHES
## FOR RUGGED, POSITIVE ACTION



Sturdy construction for dependable performance . . . *positive action every time* . . . through years of use and abuse. Top appearance, too — on the beam for sales appeal to the ultimate consumer. That's "Diamond H" electrical equipment.

The switch illustrated was designed principally for day-in, day-out service on household ranges. It has however, a host of other applications — from glue pots, corn poppers and hot plates to ovens, sterilizers and steam tables.



Eight position switch with heavy silver contacts. 15 A. 115 V. or 15 A. 230 V. A.C. Other range-type switches with 4 and 6 positions, or designed to meet your requirements.

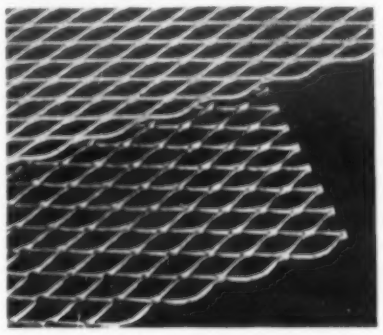
Let us talk switches in terms of *your* requirements. We make a complete line. Ask about "Diamond H" pilot lights, convenience outlets and thermostats.

THE HART MANUFACTURING COMPANY
204 BARTHOLOMEW AVENUE, HARTFORD, CONN.

▲ Mention Item NED-4389 when writing ▲


## New Processes & Materials

### EXPANDED METAL STOCK



Expanded metals in aluminum alloys and 18-8 stainless steel type 304 are now available from stock. Stainless steel stock is made from 18, 16, 13 and 10-gage steel and is available with ½, ¾ and 1½-inch openings. Aluminum stock can be furnished in 0.051, 0.081 and 0.125-inch thicknesses and is available in same opening measurements as stainless steel. Both materials are available as flattened expanded metal.

Stock can be employed in the fabrication of baskets, conveyors, refrigerator shelves, toasters, food bins, pickling baskets, screens, guards, vents, radiator grilles, drying drums, etc. Made by **United States Gypsum Co.**, 300 W. Adams St., Chicago, Ill.

▲ Mention Item **NED-4390** when writing ▲

### LOW TEMPERATURE GLUE

Water soluble Durez 13793 resin adhesive sets at temperatures of 70 F or higher and is designed for assembly or secondary gluing. Adhesive is adaptable for gluing hard or soft wood, sheet asbestos, foamed glass, phenolic laminates, vulcanized fiber, etc. It is used with Durez 12689 powdered hardener, and will also carry extra filler and water without impairment of bonding qualities.

Where immediate application of pressure is not practical or desirable, tests indicate maximum open assembly time of 1 hour and closed assembly time of 2½ hours at 70 F. Maple block shear tests at these assembly times reveal tensile strength of at least 2800 pounds per square inch. Made by **Durez Plastics & Chemicals, Inc.**, 1910 Walck Rd., North Tonawanda, N. Y.

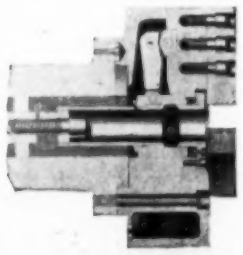
▲ Mention Item **NED-4391** when writing ▲

### LEAD ANODE

Equipped with 71 points, this improved Divco lead anode for use in plating operations has 15.5 square inches of surface for each inch of length. Arrangement of points concentrates gassing to create rapid flow of solution against surface. Stagnation is eliminated even down to bottom of troughs. Disintegration is uniform over entire surface and anode retains high efficiency throughout service life. Anode is extruded of antimonial lead. Deep ribbed construction prevents warping and buckling. Bronze hook is hot lead dipped and burned directly to anode. Made by **Division Lead Co.**, 836 W. Kinzie St., Chicago 22, Ill.

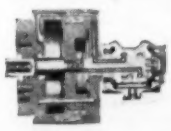
▲ Mention Item **NED-4392** when writing ▲


**HOW to Obtain Faster Chucking — Higher Production — More Accurate Work . . . *install***



*Logan* HYDRAULIC OR AIR OPERATED **CHUCKS**

To meet wartime quality and production requirements . . . for future competitive conditions . . . Logan air and hydraulic operated chucks help your machines and operators work at maximum efficiency with these 5 advantages: **1. Chucking time reduced to seconds** . . . valve lever controls jaws. **2. Rejects and spoilage eliminated** . . . jaw pressure is constant and equalized. **3. High accuracy and finish maintained**...compact Logan design permits strong, rigid set-ups. **4. Idle machine time reduced. 5. Operator fatigue minimized** . . . energy saved for other duties.



**FREE ENGINEERING ADVICE**—Layouts and recommendations for air or hydraulic chuck installations furnished. No obligation.

For your complete air or hydraulic chucking systems, Logan also offers an extensive line of rotating cylinders, control valves, air accessories, hydraulic power units and *Collet Grip* tube fittings.

**Logan Rotating Cylinders . . .**
Double-acting air and hydraulic cylinders designed for mounting on rotating machine tool spindles. Fast, positive action; long service life. Standard air cylinders from 3" to 20" bore, hydraulic from 3" to 14" bore.

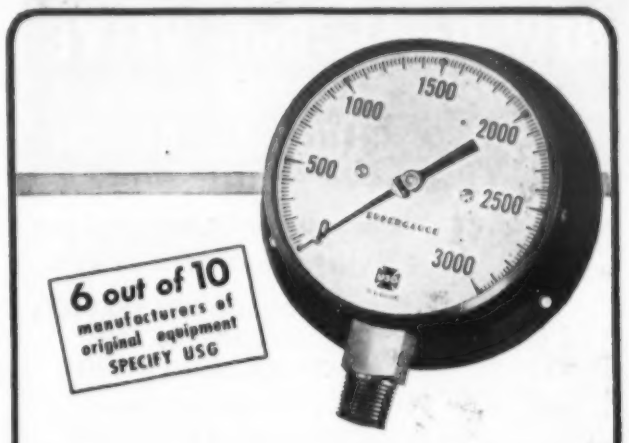
*Logan*
*Air and Hydraulic Equipment*

LOGANSPORT MACHINE CO., INC. 968 Center Ave. Logansport Indiana
CHUCKS • CYLINDERS • VALVES • PRESSES • SURE FLOW COOLANT PUMPS

**FREE Catalogs...Write for literature covering items in the Logan line in which you are interested.**

▲ Mention Item NED-4393 when writing ▲






**6 out of 10** manufacturers of original equipment SPECIFY USG

**Tomorrow's accuracy is here today in the new U. S. Supergauge. Get complete information about this superb instrument now.**

U.S. INSTRUMENTS Tell The Truth

UNITED STATES GAUGE

USG

DIVISION OF AMERICAN MACHINE AND METALS, INC., SELLERSVILLE, PENNA.
*Manufacturers of Pressure, Temperature, Flow and Electrical Measuring Instruments*

▲ Mention Item NED-4394 when writing ▲



*Ledeen*
**HEAVY DUTY CYLINDERS**

**The cylinder that does the "TOUGH" jobs more easily!**

**Whenever you have to . . . push or pull, lift or lower, press or squeeze, tilt or turn, open or close, use Ledeen Heavy Duty Cylinders.**

SEND FOR BULLETIN 453

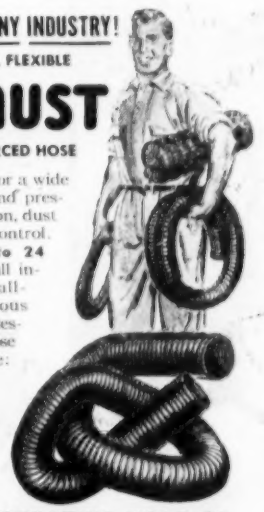
ENGINEERING PRODUCTS CO.
LEDEEN MANUFACTURING DIVISION
1600 S. SAN PEDRO ST. • PRospect 7044 • LOS ANGELES 15, CALIF.

▲ Mention Item NED-4395 when writing ▲



**HOSE FOR USE IN ANY INDUSTRY!**
LIGHT, STRONG, FLEXIBLE

# FLEXAUST
SPIRAL-REINFORCED HOSE



Flexaust is suitable for a wide variety of suction and pressure uses in ventilation, dust collection and fume control. **SIZES 1¼ inches to 24 inches.** Write for full information on this all-purpose hose. Various Flexaust types, accessories, and other hose types also available:

**BLOFLEX**
*Non-reinforced collapsible*

**PORTOVENT**
*Ring-reinforced retractable*

**AMERICAN VENTILATING HOSE CO.**
Dept. A5, 15 Park Row, New York 7, N. Y.
Branch Offices: New Orleans, La., San Francisco, Calif., Washington, D. C.
Plants: Amesbury, Mass. • Seattle, Wash.

▲ Mention Item NED-4396 when writing ▲

# NEW Double-Duty VALVE
## CRANE ALLOY PLUG GATE DESIGN

**Works as a Gate or Globe with Equal Efficiency**

**FOR CORROSIVE SERVICES IN PROCESS AND CHEMICAL INDUSTRIES**

**WORKING PRESSURE: 150 lbs., Gas or Liquid**

A new and unique valve principle. In wide-open position flow is straight through, unrestricted, with discharge equal to that of a wedge gate valve. For throttling, Plug Gate design gives precise control of flow at high or low velocity, with same resistance to wire drawing and cutting as a globe disc valve.

Permits wide standardization; prevents misapplication. Simplifies valve selection and maintenance; easily repaired. Sizes from ½ to 2 in. Flanged or screwed ends.

**WRITE FOR DESCRIPTIVE FOLDER AD-1625**

CRANE CO., 836 S. Michigan Avenue, Chicago 5, Ill.
*Branches and Wholesalers Serving All Industrial Areas*

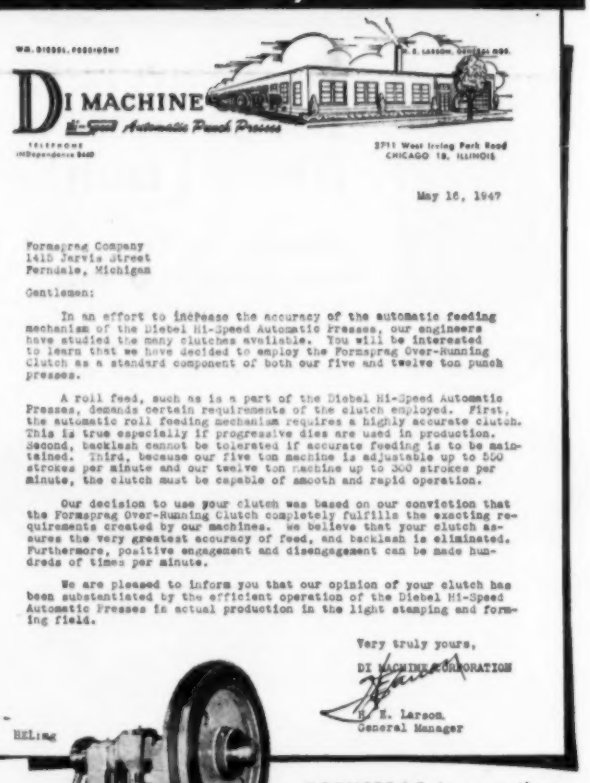
**CRANE** *Everything for Every Piping System*

**VALVES • FITTINGS • PIPE • PLUMBING AND HEATING**

▲ Mention Item NED-4397 when writing ▲



*Read what* **DI MACHINE** *says about* **FORMSPRAG**
THE FULL COMPLEMENT
*Over-Running Clutch*


DI MACHINE
Hi-Speed Automatic Punch Presses
2711 West Irving Park Road
CHICAGO 18, ILLINOIS

May 16, 1947

Formsprag Company
1415 Jarvis Street
Ferndale, Michigan

Gentlemen:

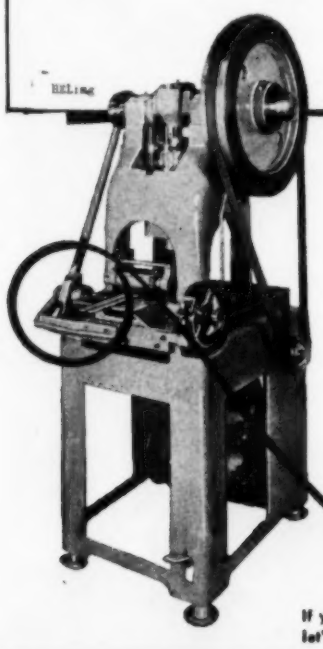
In an effort to increase the accuracy of the automatic feeding mechanism of the Diebel Hi-Speed Automatic Presses, our engineers have studied the many clutches available. You will be interested to learn that we have decided to employ the Formsprag Over-Running Clutch as a standard component of both our five and twelve ton punch presses.

A roll feed, such as is a part of the Diebel Hi-Speed Automatic Presses, demands certain requirements of the clutch employed. First, the automatic roll feeding mechanism requires a highly accurate clutch. This is true especially if progressive dies are used in production. Second, backlash cannot be tolerated if accurate feeding is to be maintained. Third, because our five ton machine is adjustable up to 500 strokes per minute and our twelve ton machine up to 300 strokes per minute, the clutch must be capable of smooth and rapid operation.

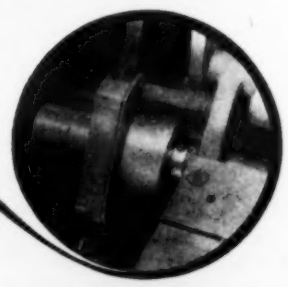
Our decision to use your clutch was based on our conviction that the Formsprag Over-Running Clutch completely fulfills the exacting requirements created by our machines. We believe that your clutch assures the very greatest accuracy of feed, and backlash is eliminated. Furthermore, positive engagement and disengagement can be made hundreds of times per minute.

We are pleased to inform you that our opinion of your clutch has been substantiated by the efficient operation of the Diebel Hi-Speed Automatic Presses in actual production in the light stamping and forming field.

Very truly yours,
DI MACHINE CORPORATION
H. E. Larson
General Manager



**FORMSPRAG** is *more* than an efficient, trouble free, over-running clutch. It is a feature that makes sales for the products using it. It proves to your customers that you are giving them a better, more efficient product.



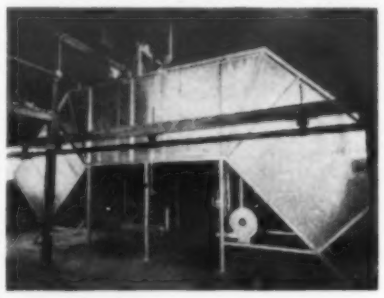
If you have or may have an application, let's talk it over.

**FORMSPRAG** *Company*
1415 JARVIS • FERNDALE, MICH.

▲ Mention Item NED-4398 when writing ▲


# New Processes & Materials

## DEGREASING & RUSTPROOFING



Rustproofing has been added to the list of results obtainable with infrared equipment. Developed originally for Burn-Off process of degreasing metal parts, infrared gas-fired Burdett burners are now being employed to produce simultaneously a rust inhibiting surface to these parts. As grease and other film is burned off surface, rust resistant blue surface is developed. This tight scale reaches even hidden surfaces. Sheets treated by burn-off rustproofing process have been tested under severest weather conditions for as long as five weeks without any indication of rust. Similar protection is afforded against acid atmospheres. Rustproofed surface offers excellent adhesion to paint. Each installation requires proper placing of gas-fired infrared burners in relation to work for best results. Developed by **Burdett Mfg. Co.**, 3433 W. Madison St., Chicago, Ill.

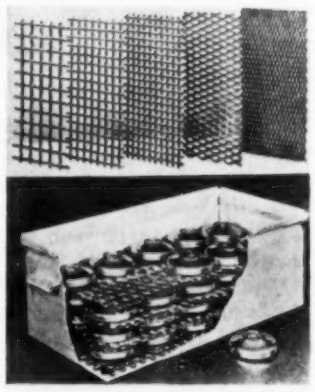
▲ Mention Item NED-4399 when writing ▲

## DRAWING DRY CLEANER

When sprinkled on drawings, blueprints, maps or charts, Draw-Kleen dry cleaning compound will absorb perspiration, surface dirt and pencil smudges. It can be sprinkled on sheets while work is being done and then easily brushed off when drawing is completed. Material can be used also to clean soiled artwork and documents which have become dusty or fingermarked. Cleaner has appearance of fine, soft crumbles and does not stick to paper or board. It is packaged in 1½-ounce shaker top cans. Made by **Craftint Mfg. Co.**, 210 St. Clair, N. W., Cleveland 13, O.

▲ Mention Item NED-4400 when writing ▲

## MATERIAL HANDLING SCREENS



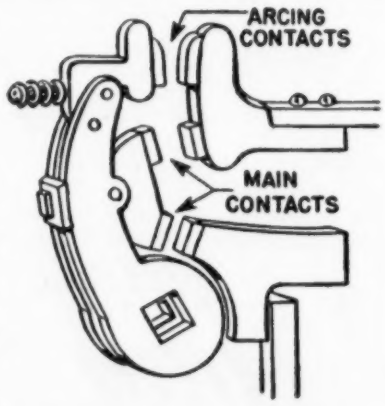
Rubber covered woven wire screen and expanded or perforated metal in all mesh sizes are available to fit bottoms of tote pans, conveyor baskets or pallets. Purpose of screens is primarily to protect parts which have been plated, painted or precision finished so they will not become scratched, marred or disfigured by contact with metal surfaces. Mesh separators likewise permit drainage.

Screens can be covered with semihard or soft natural rubber or synthetic rubber to meet specific conditions encountered. They can be used also as separators in palletizing and stacking parts. Made by **Automotive Rubber Co.**, Dept. ED, 8641 Epworth Blvd., Detroit 4, Mich.

▲ Mention Item NED-4401 when writing ▲

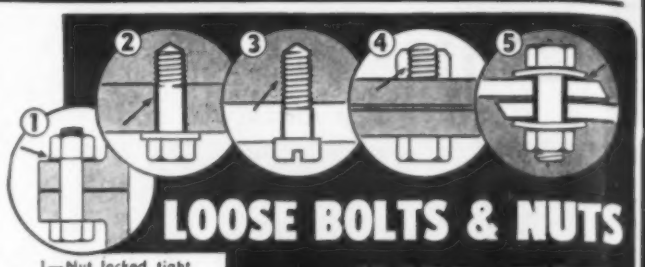
## ELECTRICAL CONTACTS

Made of silver molybdenum, Gibsiloy M-10 and Gibsiloy M-12 electrical contacts possess excellent arc resisting characteristics and are suitable for use as tips in either air or oil circuit breakers. Because of its high refractory content, type M-12 is recommended for use on heavy circuit breakers where unusual mechanical and electrical stresses are encountered. Type M-10 can be used on small size circuit breakers handling lower pressures.




Contacts are made by powder metallurgy process in individually molded shapes for each application and can be furnished solder backed for convenient brazing. Hardness and refractory content of material result in maximum resistance to wear from both arcing and mechanical action. Made by **Gibson Electric Co.**, 8357 Frankstown Ave., Pittsburgh 21, Pa.

▲ Mention Item NED-4402 when writing ▲


# LOOSE BOLTS & NUTS MADE TIGHT

1—Nut locked tight. 2, 3—Loose bolt made fast. 4—Loose nut held. 5—Loose bolt wedged with cupped washers.

Smooth-On No. 1 iron Cement will hold loose bolts or nuts tight—and they will stay tight. Fill the space around the bolt in an oversize bolt hole, or fill the space around a worn bolt, with Smooth-On No. 1 to make a tight fit.

These very simple uses for Smooth-On No. 1 are everyday examples of the handiness of this half-century-old repair standby. Use it also to stop leaks and to fill worn or corroded areas, etc.

Buy Smooth-On No. 1 in 1-, 5-, 25-lb. or larger size at your supply house. If they haven't it, write us.

**FREE** 40-Page Handbook

Shows many ingenious, time-saving, money-saving Smooth-On uses. 170 diagrams. Every repairman needs this book. Send postcard for your copy TODAY.

SMOOTH-ON MFG. CO., Dept. 10G
570 Communipaw Ave. Jersey City 4, N. J.

*Do it with* **SMOOTH-ON**
IRON CEMENT

▲ Mention Item NED-4403 when writing ▲



# ALL ALUMINUM Electric Glue Pots
by
**VULCAN**

Water Jacket Type
Thermostat Control

Heavy cast aluminum with attached base
Inside pot or bowl also aluminum
Underwriters listed heater cord.
110-125 or 220-230 volts AC or DC

FOUR SIZES
One Pint to Four Quarts

**VULCAN ELECTRIC COMPANY**
DANVERS 7, MASS.

Makers of Electric Soldering Tools, Solder Pots and a wide variety of Heating Elements for assembly into manufacturers' own products and of Heating Specialties that use electricity.

▲ Mention Item NED-4404 when writing ▲



# For More Work, Greater Safety

*Put* **SIMPLEX** *in the picture*

**Simplex Jacks, Jennys for Push, Pull or Lift Jobs**

Simplex Hydraulic Jacks and Simplex-Jenny Center Hole Hydraulic Pullers make shop and factory jacking or pulling jobs easier to handle, cut hours from time formerly required and give your workers the added value of *extra* safety. Simplex Jacks and Jennys are tested at 50% over *rated* capacity. Neoprene packing seals, pressure tested bases and many other features make them musts on your equipment list.

**TRY ONE FREE**

Thirty days Free Trial. Ask on your letterhead: state capacity desired. Jacks in 3, 5, 8, 12, 20, 30, 50 and 100-ton capacities. Jennys in 30, 60, 80 and 100-ton capacities. WRITE TODAY to:

**SIMPLEX-JENNY CENTER HOLE HYDRAULIC PULLER**

For pulling cylinder liners, bushings, bearings, gears, wheels, boiler tubes and many other tough jobs.

TEMPLETON, KENLY & CO., CHICAGO 44, ILL.
1010 Central Avenue

**Simplex** LEVER · SCREW · HYDRAULIC **Jacks**

▲ Mention Item NED-4405 when writing ▲

# IT'S NOT THE HIP—BUT THE HURRAH THAT COUNTS!

Hundreds of users of Jones Tachometers tell us: "Production up 30%", "Maintenance expense at lowest levels in history", "Employe morale definitely better", "Quality of product unbelievably better", "Profits greater since Jones Motrola control instruments installed", and many other improved production results.

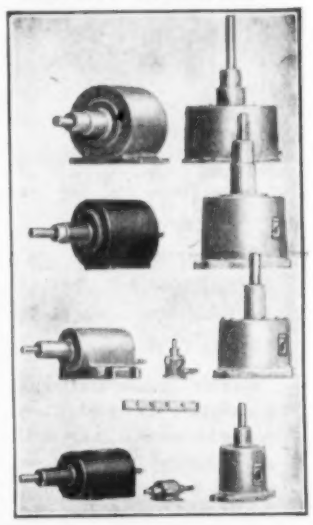
If you can find any interesting point covered in these quotations; if you do not have at present, or have never considered the use of, continuously functioning production and maintenance control instruments or if your presently installed instruments are not doing the good job expected of them, you should see the new 16 Page Catalog on Jones Tachometers. Write for it *now*.

**JONES MOTROLA CORP.**

439 FAIRFIELD AVENUE STAMFORD, CONN.

▲ Mention Item NED-4406 when writing ▲

# I save Time, Worry and Production Costs by using these MEAD AIR CYLINDERS



These simple, adaptable, single-acting Mead Air Cylinders will solve your work-holding problems quickly, economically! Available in numerous vertical or horizontal mountings and in a wide range of sizes all featuring spring-return action. Write for new Mead Air Power Catalog describing single and double acting Cylinders, Valves, Presses, Clamps, Work Feeders, Vises, Impact Hammers, Collet Fixtures and other air-operated devices.

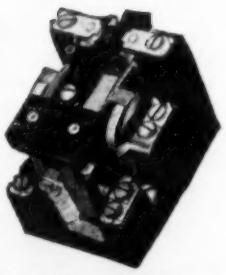
**MEAD**
SPECIALTIES COMPANY

4114 NO. KNOX AVE., DEPT. NA-77 CHICAGO 41, ILL.

▲ Mention Item NED-4407 when writing ▲



# 1 RELAY WITH 1001 USES



Here's a general-purpose magnetic relay that can be used in a thousand and one different circuits, ranging from electronic welder control to air conditioning installations. It handles up to 10 amperes at 230 volts a-c. It comes in four forms: open, enclosed, back-of-panel connected, and plug-in—with a choice of three contact arrangements on each form.

You'll find that this compact, G-E relay fits as though it were made to order, in many applications. Measuring less than 3 by 2 by 2⅜ inches, it may be mounted on an insulated or noninsulated base. Terminals are easily accessible. Contacts are heavy silver.

In the enclosed form, convenient knockout conduit entrances are provided top and bottom. The U-shaped cover makes for easier wiring and inspection. For more details, ask your nearest G-E office for Bulletin GEA-4668. *Apparatus Department, General Electric Co., Schenectady 5, N. Y.*

**GENERAL ELECTRIC**

▲ Mention Item NED-4408 when writing ▲


## New Processes & Materials

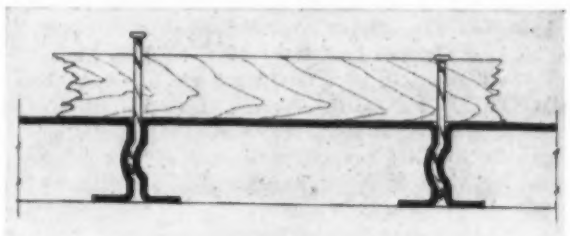
### SINTERED ALLOY

Prepared by powder metallurgy methods, Mallory 1000 sintered alloy is claimed to have strength and density approaching that of tungsten. It is resistant to atmospheric corrosion and to certain acids. Material is readily machinable and can be applied as balancing component to rotors in such devices as gyro pilots and governors. Its modulus of elasticity ranges from 20,000 to 40,000 pounds per square inch. Because its density offers protection against gamma radiation, alloy can be used for radium containers. Made by **P. R. Mallory & Co.**, 3027 E. Washington St., Indianapolis 6, Ind.

▲ Mention Item NED-4409 when writing ▲

### NAILABLE STEEL FLOORING

Suitable for new construction or as replacement in existing vehicles, nailable steel flooring for use in railway cars, trucks and trailers permits solid fastening of freight customarily



secured by blocks nailed in place on wooden floors. Flooring consists of steel channels between which ordinary nails can be driven. Nails driven into grooves formed by parallel flanges of curved steel are deformed and held securely.

Eight-inch wide channels are formed of N-A-X high tensile, low alloy, high strength steel. They are laid across width of car or truck and welded to underframe with space left between channels to provide nailing groove. Grooves are filled with self-sealing composition which prevents loss of bulk material such as sand and grain. Structural strength of channels is said to permit lowering of weight of underframe. Other advantages are increased strength and resistance to impact, freedom from splintering and obstructions contributing to damage of goods in transit, nonabsorbency of liquids, and ease of cleaning and unloading. Made by Steel Floor Div., **Great Lakes Steel Corp.**, 3580 Penobscot Bldg., Detroit 26, Mich.

▲ Mention Item NED-4410 when writing ▲

### FLOOR COATING MATERIAL

Developed to produce glossy, nonslipping surface on asphalt tile and linoleum floors, Floor-Dress is pale straw-color pyroxylin base material which is applied with brush. Two separate formulas are used, depending on material to which coating is applied. Product has no unpleasant odor and dries in approximately 10 minutes. Resulting surface will not crack or peel. It will withstand oil, grease, mild acids, alcohol and hard usage. Tile on which it is applied will not curl.

Three coats of Floor-Dress are recommended with 1 hour drying time between applications. When floor surface requires renewal, single coat of material will restore finish. Material will cover asphalt tile at rate of approximately 350 to 400 square feet per gallon on first coat and from 400 to 500 square feet per gallon on subsequent coats. When it is applied over linoleum, 10 per cent additional coverage is obtained. Made by **Rock-Tred Corp.**, Dept. H., 629 W. Washington St., Chicago 6, Ill.

▲ Mention Item NED-4411 when writing ▲

**For Level, Crack-Free, *Heavy Duty* ANTI-SKID FLOORS**

**Use Seelauton Floor Grids**

ALLOY CAST IRON

Immediately available in easily handled units, 18"x36"x¾", Seelauton alloy cast iron floor grids, filled with concrete or other poured composition materials, are best for every location where there is continuous, heavy, floor-wrecking traffic.

Seelauton's patented interlocking fastening device eliminates bolting or other costly labor installation factors... assures lowest cost, longest wearing anti-skid floors.

*WRITE TODAY... FOR COMPLETE INFORMATION*

**SEELAUTON COMPANY, INC.**
3542 EAST 71st STREET
CLEVELAND 5, OHIO
MI. 3078

AVAILABLE FOR IMMEDIATE SHIPMENT

▲ Mention Item NED-4412 when writing ▲



# STEEL STRAPPING

A complete *Planned* system of shipping *Protection* used by many more than *700 INDUSTRIES*. Engineered to *individual* applications....

*BOXES TO CARLOADS*

YOU SAVE MONEY WHEN YOU SHIP ECONOMICALLY. SEND THE COUPON NOW AND GET ALL THE DETAILS.

MAIL COUPON TODAY

**SIGNODE STEEL STRAPPING CO.** NED
2632 N. Western Avenue, Chicago 47, Illinois

Send complete data on the Signode System of Planned Protection.

☐ Have representative call. ☐ Send literature.

Name_____

Company_____

Address_____

City_____ Zone____ State____

▲ Mention Item NED-4413 when writing ▲



# 98¢ COLMONOY *Center Tips*

**Tipping Centers with COLMONOY is Economical and Fast**

You can't get a very fancy steak dinner for 98c. But you can get a solid Colmonoy tip for a NO. 4 Morse. Best of all, you can apply it yourself, using only 10 minutes of time and 1/4 oz. of silver solder. It will wear so long that you'll kick yourself for not using Colmonoy tips before.

Of course, if you don't have 10 minutes to spare, just send your worn tips to us and we'll do the work for you. For a modest fee.

***With COLMONOY Center Tips You Can***

Get over five times as many pieces per grind as with hardened tool steel centers

Salvage your worn centers

Cut new center costs by tipping cold rolled steel blanks

WRITE for BULLETIN CT-1

Full information as to sizes and prices.

**WALL COLMONOY *Corporation***
Hard Facing Alloys
19345 JOHN R ST. • DETROIT 3, MICH.

▲ Mention Item NED-4414 when writing ▲

weld it... stronger... faster... with

WELD-O-TIMER

*Control*

Here's real help in producing better spot welds . . . faster! It's the Westinghouse Weld-o-timer . . . a complete line of non-synchronous control for your resistance welding operations.

Weld-o-timer insures accurate and dependable timing through regulated voltage timing circuits, to deliver—quickly—welds of uniform strength and quality. All controls come in one easily installed unit. Ask your nearest Westinghouse representative for details or write to Westinghouse Electric Corporation, Buffalo 5, New York. J-21431

Westinghouse WELD-O-TIMER

PLANTS IN 25 CITIES OFFICES EVERYWHERE

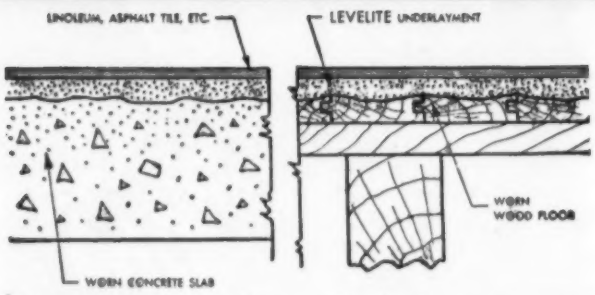
▲ Mention Item NED-4413 when writing ▲



RESILIENT FLOOR-COVERINGS LAST LONGER WITH

LEVELITE

*The Perfect Underlayment*




**IN corridors, lobbies, foyers, offices . . . on stairs and landings . . . wherever the base-floor has been worn, chipped, cracked, or warped . . . LEVELITE should be applied to make the surface even and level before covering with asphalt tile, rubber tile, vinyl tile, linoleum, or carpet.**

**Worn surfaces, cracks, ridges, and gaps produce harmful effects in visible coverings and the causes are often unseen until too late for remedy.**

**Write for illustrated folder and name of nearest contractor.**

*A Floor Crafters Product by*

SELBY, BATTERSBY & CO.

Wilford Bldg., 3307 Arch St., Philadelphia 4, Pa.

▲ Mention Item NED-4416 when writing ▲



180° VISIBILITY with SPECIAL CONICAL LENS

*Gothard*

SERIES 1600 INDICATOR LIGHTS

This is THE light for industrial machine "ON-OFF" signalling. A rugged conical lens, which was perfected by Gothard, together with the well balanced design of Series 1600 Indicator Light, which mounts lamp well forward, provides excellent visibility from all angles. The conical lens is molded with tiny hemispheres on the inner surface for maximum light diffusion. Lamp removes from front. Smooth, easily cleaned outer surface. Jewel colors: red, green, amber, blue, opal and clear. If you do not have a Gothard-Johnson catalog—write for it.

Model 1600—115 volt Candelabra lamp.
Model 1604—6 to 24 volt single contact, bayonet base lamp.
Model 1605—6 to 24 volt double contact, bayonet base lamp.

*Gothard Division*

E. F. JOHNSON COMPANY

Waseca, Minn.

JOHNSON

*a famous name in Radio*

▲ Mention Item NED-4417 when writing ▲


# NEW *Literature* AND *Catalogs*

**PLASTICS FABRICATION**—16-page illustrated pamphlet "Plastic Fabrication for Industry" shows facilities and equipment available for designing and manufacturing plastic products and depicts parts produced by die forming—issued by Lee Plastics, A & Lippincott Sts., Philadelphia 34, Pa.

▲ Mention Item **NED-4418** when writing ▲

**CONVEYORS**—8-page illustrated catalog No. 755 describes portable flat belt conveyors for coal, coke and other non-abrasive materials; portable trough belt conveyors for sand, gravel and abrasive materials; general freight portable conveyors and special conveyors—issued by Trowbridge Conveyor Co., Van Houten Ave. & Erie R. R., Clifton, N. J.

▲ Mention Item **NED-4419** when writing ▲

**INDUSTRIAL FINISHES**—Technical data bulletin contains specific information about use, characteristics and application methods for lacquers, enamels and synthetic finishes—issued by Maas & Waldstein Co., 438 Riverside Ave., Newark 4, N. J.

▲ Mention Item **NED-4420** when writing ▲

**POSITION INDICATING EQUIPMENT**—20-page illustrated bulletin GET-1304 outlines principle of operation and supplies selection and application data on direct current selsyn three-wire system indicators and transmitters—issued by General Electric Co., Schenectady 5, N. Y.

▲ Mention Item **NED-4421** when writing ▲

**LABELS**—32-page illustrated catalog "Tools of Business" shows wide range of label designs which have been employed for shipping, packaging, advertising and other uses—label moisteners and tape dispensers are depicted and described also—issued by Ever Ready Label Corp., 141 E. 25th St., New York 10, N. Y.

▲ Mention Item **NED-4422** when writing ▲

**GEARS & SPECIAL MACHINERY**—24-page illustrated catalog "Earle Gears" describes and contains blueprints on various types and sizes of gears and special machinery—included are spur gears and pinions, bevel and miter gears and pinions, worm gears and wheels, nonmetallic gears, racks, sprockets and sheaves—issued by Earle Gear & Machine Co., 4707 Stenton Ave., Philadelphia 44, Pa.

▲ Mention Item **NED-4423** when writing ▲

**TOOLS**—134-page illustrated tool catalog, ninth edition, covers complete line of tools, including rivet, dimpling and cutting tools, angle drills and bucking bars—line drawings give sizes and specifications for each model—available upon letterhead request—issued by Aircraft Tools, Inc., Dept. NED, 2306 E. 38th St., Los Angeles 11, Calif.

▲ Mention Item **NED-4424** when writing ▲

**TOOLMAKER'S LATHE**—24-page illustrated bulletin No. 302 describes design and construction features of 10-inch model EE toolmaker's lathe—complete specifications are listed and both standard and extra equipment are covered—issued by Monarch Machine Tool Co., Oak St., Sidney, O.

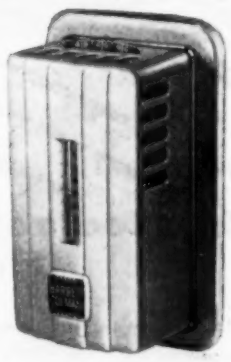
▲ Mention Item **NED-4425** when writing ▲


BARBER-COLMAN

*New* UNIT HEATER THERMOSTAT

**CONTACTS RATED 10 AMP. AT 115 V., 5 AMP. AT 230 V.**

This compact, sensitive, accurate thermostat is specially designed for industrial, commercial, and residence service where the control instrument must handle the full starting current at line voltage on motors up to ¼ h.p. It is available in two ranges: 40° to 80° F for heating, 55° to 95° F for cooling applications. Built-in adjustable stops provide locking or range restriction.



¾ ACTUAL SIZE

**BASE MOUNTING PLATE FITS STANDARD OUTLET BOXES**

The Barber-Colman Unit Heater Thermostat is furnished complete with metal base plate punched for mounting on standard outlet boxes of the surface or flush types, permitting direct attachment without adapters to regular conduit fittings.

*Write for Bulletin F3141*

BARBER-COLMAN COMPANY

1206 ROCK STREET • ROCKFORD, ILLINOIS

▲ Mention Item NED-4426 when writing ▲



*Now*—a real heavy duty JUMBO CLAMP

It is the only big clamp we know of that provides for spindle adjustment along the toggle bar.

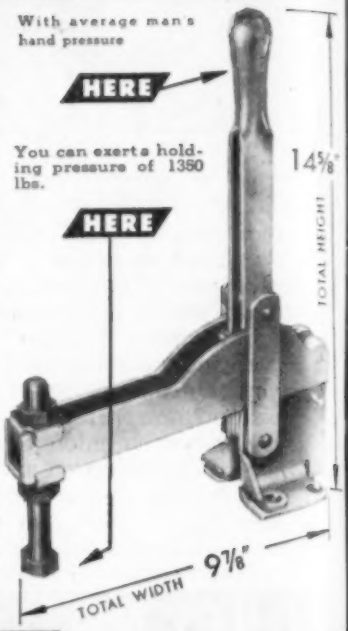
It has a special designed base having an ingenious, integral front corner and back support, making deflection at spindle, therefore, only 5/32".

Each clamp comes equipped with an adjustable spindle assembly. However, this can be removed and a special pressure pad to suit your requirements can easily be substituted.

The clamp, catalogued as V-1100, has comfortable hand grip. Weighs 6 lbs.

**The recommended pressure is 1350 lbs.**

*As exclusive manufacturers of clamping devices, we do encounter a wide variety of clamping problems. You will find it very advantageous to draw on this extensive experience. Write for catalog showing the full Knu-Vise line of clamping devices.*



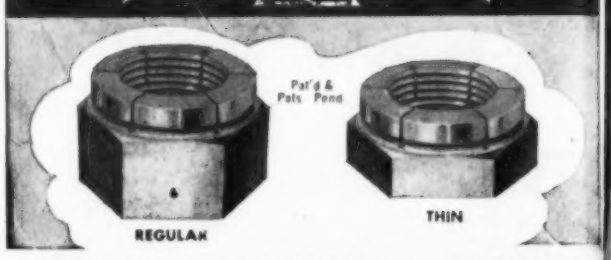

KNU-VISE INCORPORATED

2212 Eighth St., Detroit 16, Mich.
4328 San Fernando Rd., Glendale 4, Cal.

▲ Mention Item NED-4427 when writing ▲



FLEXLOC




SELF-LOCKING NUTS

**Samples of our "Flexloc" Self-Locking Nuts will be sent free.**

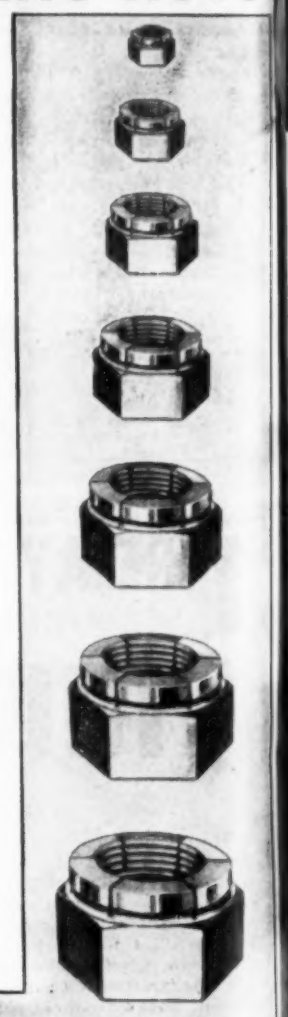
"Flexloc" packs maximum usefulness in minimum space because it is rugged, self-locking, compact—and is therefore becoming increasingly popular and this applies alike to U.S.S. and S.A.E. thread series.

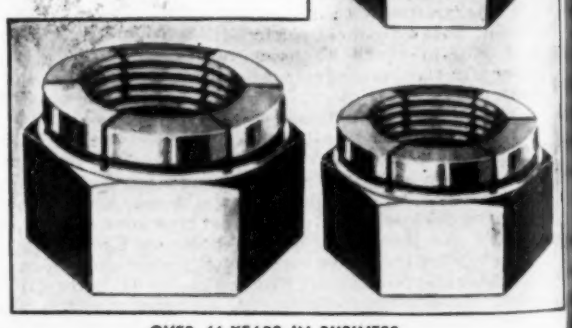
Every thread—including the locking threads—takes its share of the load.

Covers a wide range of tolerances—from low No. 1 to high No. 3. Can be used over and over again without losing much of its locking ability.

Being a "stop" nut, it stays locked in any position on a threaded member. "Flexloc" Thin Nuts are especially popular, because their tensile is so high.

Sizes from No. 6 to 1" in diameter—**millions in use! Convince yourself with a few free samples.**





OVER 44 YEARS IN BUSINESS

STANDARD PRESSED STEEL CO.

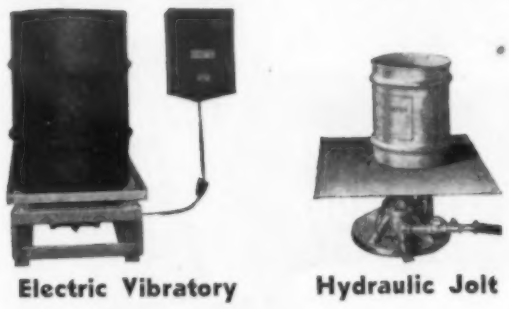
JENKINTOWN, PA. BOX 581

BOSTON • CHICAGO • DETROIT • INDIANAPOLIS • ST. LOUIS • SAN FRANCISCO

▲ Mention Item NED-4428 when writing ▲

SYNTRON

PACKERS



Electric Vibratory  Hydraulic Jolt

Increase Packing Efficiency

— by eliminating slow, laborious hand pounding, bumping and jarring.

— save money and time by speeding up your container-filling program.

3600 rheostat-controlled vibrations per minute from the electric models — 100 short, sharp jolts per minute from the hydraulic models.

*Write for catalog literature*

SYNTRON CO., 405 Lexington, Homer City, PA.

▲ Mention Item NED-4429 when writing ▲

· FAST · EFFICIENT · ECONOMICAL

With CHROMALOX Electric Heaters you can accurately heat and maintain temperatures in degreasing, cleaning, pickling and plating. You can melt greases, asphalts and other viscous substances. You can heat dies, molds, platens and ovens. In fact—you can do hundreds of heating jobs in your plant with these easy-to-install units.

Let us show you how to save time, money and improve production with CHROMALOX Electric Heaters.

For "Know-How" Send for the booklet "100 Ways to Apply Electric Heat" and Catalog 42.

EDWIN L. WIEGAND CO., 7509 THOMAS BLVD., PITTSBURGH 8, PA.

See other advertisement on Page 4

CHROMALOX 1B-49

ELECTRIC HEAT FOR MODERN INDUSTRY

▲ Mention Item NED-4430 when writing ▲

Strengthens Plug Welds with New "Fleetweld 47"

THE "Shur-Lift" auto jack made by Berg Manufacturing & Sales Co., Chicago, has top and bottom non-skid plates joined to channels with plug welds. Photo shows a group of bottom plates and channels being welded.

Berg had difficulty making plug welds that would withstand the toughest service, especially the tension caused when car axle slips off-center on the top plate. The slag of conventional E-6010 electrode did not always wash to the surface during welding, resulting in slag inclusions which kept the weld from developing maximum strength.

They called in the Lincoln engineer, who tried various electrodes and procedures. He recommended the new "Fleetweld 47" electrode. It has very light slag which washes to the surface of the plug weld and is practically self-cleaning. In Berg's tests, "Fleetweld 47" plug welds were impossible to break. Description and procedures for "Fleetweld 47" will be sent on request by The Lincoln Electric Company, Dept. 813, Cleveland 1, Ohio.

▲ Mention Item NED-4431 when writing ▲

## New Literature—Continued

**JET PROPULSION ENGINES**—Full-color illustrated booklet No. B-3834 describes 19XB Yankee Turbojet that powers Navy's interceptor FD-1; 9.5-A Yankee, Turbojet midget 9.5 inches in diameter; and new Turboprop, turbine driven propeller engine in intermediate altitude and speed range—issued by Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.

▲ Mention Item **NED-4432** when writing ▲

**WOOD CONSTRUCTION**—40-page illustrated booklet "Modern Building with Wood" portrays wide range of light and heavy frame wood structures employing Teco connector system of construction, Lamella construction and glued laminated construction—issued by Timber Engineering Co., 1319 Eighteenth St., N.W., Washington 6, D. C.

▲ Mention Item **NED-4433** when writing ▲

**RIVETING EQUIPMENT**—48-page illustrated catalog "Chicago Rivet Automatic Setting" describes and presents technical data on line of automatic machines for setting semi-tubular, deep drilled, split and special rivets—issued by Chicago Rivet & Machine Co., 9600 W. Jackson Blvd., Bellwood, Ill.

▲ Mention Item **NED-4434** when writing ▲

**FEED FINGERS & PADS**—8-page illustrated booklet "Style 'B' Master Feed Fingers and Pads" lists types, capacities and prices of feed fingers and interchangeable pads which are available to fit all materials and classes of screw machine work—issued by Hardinge Brothers, Inc., 100 Precision Ave., Elmira, N. Y.

▲ Mention Item **NED-4435** when writing ▲

**PNEUMATIC & HYDRAULIC FITTINGS**—16-page illustrated condensed catalog covers inverted flare, compression SAE flared, AN and Ermeto tube fittings; pipe fittings; hose assemblies; drain and shut-off cocks; brake fittings; hydraulic cylinders; valves; manifolds; dehydrators and liquefied petroleum gas equipment—issued by Weatherhead Co., 300 E. 131st St., Cleveland 8, O.

▲ Mention Item **NED-4436** when writing ▲

**SPIRAL TUBING**—8-page illustrated booklet "Big New Economies for Pipe and Tubing Users" discusses construction and uses of tubing made from light gage metals in spiral construction to provide greater strength and rigidity with less weight and less cost per foot—issued by Pratt Industries, Inc., Frankfort, N. Y.

▲ Mention Item **NED-4437** when writing ▲

**PNEUMATIC EQUIPMENT**—16-page illustrated bulletin No. CL-10 presents information on Controlled-Air motors power feeding units, semiautomatic air vise, Hydro-Check adjustable hydraulic resistance units for accurate control of feeding traverse, air cylinders, control valves and various accessories—issued by Bellows Co., 862 E. Tallmadge Ave., Akron 10, O.

▲ Mention Item **NED-4438** when writing ▲

**ABRASION TESTING ACCESSORIES**—12-page illustrated bulletin No. 4702 covers complete line of accessories developed for application with Taber Abraser instrument for determining wearability of electroplated coatings, organic finishes, plastics, rubber, textiles, leather and paper—issued by Taber Instrument Corp., 111-NED Goundry St., North Tonawanda, N. Y.

▲ Mention Item **NED-4439** when writing ▲

Get This FREE Digest if You Want to Cut Cleaning Costs

HERE'S a book-full of cleaning tips that may help tide you over these detergent-shortage days. It's a digest of 54 cleaning and related jobs generally performed in factories and mills. Based on the successful cleaning experience of hundreds of plants, it shows how you can save time and money on *your* cleaning procedures.

Ask your local Oakite Technical Service Representative to bring along a copy next time he calls. Or write to Oakite Products, Inc., 32G Thames Street, New York 6, N. Y.

OAKITE

REG. U. S. PAT. OFF.

SPECIALIZED CLEANING MATERIALS • METHODS • SERVICE

*Technical Representatives in Principal Cities of U. S. & Canada*

▲ Mention Item NED-4440 when writing ▲

AO Safety Gloves and Mittens

AO makes a complete line of welders' gloves and mittens, all designed to provide maximum protection with extraordinary comfort. Only the highest grade of chrome tanned cowhide or horsehide is used. Durably constructed, they cost least in the long run. AO also makes an excellent line of welders' clothing. Send for catalog.

American Optical COMPANY

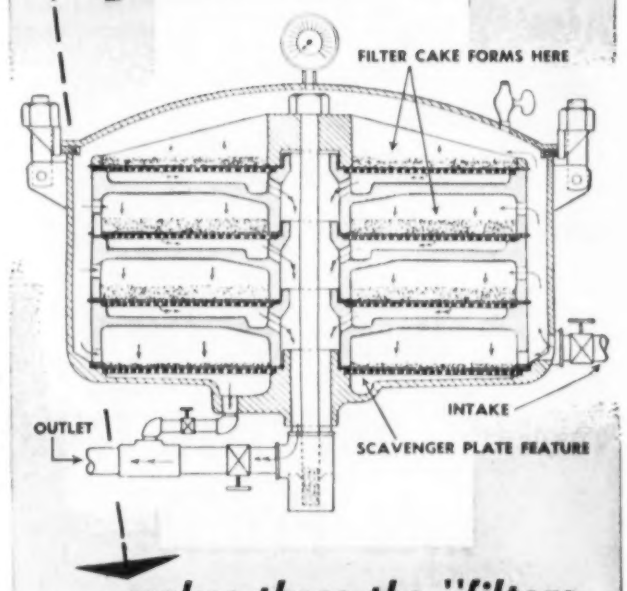
*Safety Division*

SOUTHBRIDGE, MASSACHUSETTS

BRANCHES IN PRINCIPAL CITIES

▲ Mention Item NED-4441 when writing ▲

the *horizontal plate* principle




*. . . makes these the "filters that filter all liquids"—*

SPARKLER *Horizontal Plate* FILTERS

*. . . here's the story:*

- Sparkler Horizontal Plate Filters handle any liquid from heavy varnishes to light alcohols, including products such as acids, oils, beverages, milk, pharmaceuticals, plating solutions, water, etc.
- Equally efficient performance on intermittent or continuous operation, under a wide range of temperature, pressure and viscosity conditions.
- Equally effective whether removing carbons and contact clays or clarifying and polishing with filter aids.
- Patented Scavenger Plate permits complete batch filtration. (It's virtually an auxiliary filter with an independent control valve.)
- Unexcelled filter cake stability — no slipping or breaking.

*. . . why?* Because filter media are supported on a horizontal plane and filter aids floated into position uniformly, filtration takes place uniformly over entire filtering areas. Flow through filter is always *with* gravity.

Sparkler Filtration Is *Engineered* Filtration—we invite correspondence on your problem. You will receive the advice of filtration scientists with a quarter of a century of experience in a specific field.

SPARKLER MANUFACTURING CO.

MUNDELEIN, ILLINOIS

▲ Mention Item NED-4442 when writing ▲

Small space requirement and low cost make Mercury Electric Counters ideal for built-in applications. Low current draw (approx. 2 watts). Enclosed working parts, tamper-proof case. Speeds to 600 CPM and more. Operates in any position. Non-reset. Counts anything that will operate an electric switch or electric-eye.

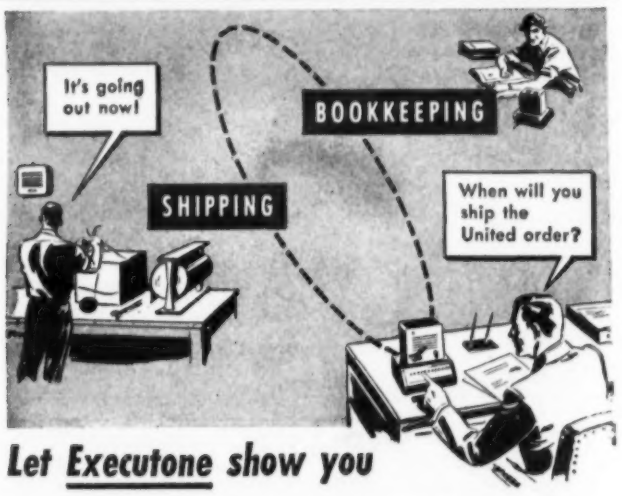
**Counting Problems SOLVED**

Send for Catalog or tell us what you want to accomplish.

**Production Instrument Company**
700-12 W. Jackson Blvd., Chicago 6, Ill.
Manufacturers of Counting, Timing and Recording Devices

▲ Mention Item NED-4443 when writing ▲






*Let Executone show you*

# —how to turn Non-Productive Time into Profit!

• THINK how much time is *wasted* by your key personnel running back and forth to confer . . . *waiting* for assistants to get urgent information . . . *waiting* for inside calls to clear your busy switchboard.

All this *non-productive* time is a serious drain on your profits.

Executone Inter-com plugs up these profit leaks. With the split-second speed of electronics, you get *instant* voice-to-voice contact with every member of your staff. You just press a button—*and talk*. Instructions may be given, questions asked and answered, without anyone leaving his work. You cut overhead—control labor costs—get more work done *faster*.

•

✓ Executone Systems are unconditionally guaranteed.
✓ Over 100,000 successful installations prove its dependability.
✓ It will pay you to investigate Executone. Mail the coupon TODAY!

**Executone**
COMMUNICATION & SOUND SYSTEMS

EXECUTONE, INC., Dept. G-3
415 Lexington Ave., New York 17, N. Y.
Without obligation, please let me have . . .
☐ Literature on Executone.
☐ A look at Executone in my office.
Name_____
Firm_____
Address_____ City_____

▲ Mention Item NED-4444 when writing ▲


## New Literature—Continued

CONTAINERS—12-page illustrated booklet "The General Box" shows and discusses use of wirebound crates, boxes and lagging and cleated corrugated boxes in several manufacturing plants—issued by General Box Co., Corner of Dearborn & Illinois Sts., Chicago 10, Ill.

▲ Mention Item NED-4445 when writing ▲

FLEXIBLE METAL HOSE—Illustrated catalog No. G-47 explains Flexonics defined as "the science of controlled bending of thin metals for use under varying conditions of temperature, pressure, vibration and corrosion"—available upon letterhead request—issued by Chicago Metal Hose Corp., Maywood, Ill.

▲ Mention Item NED-4446 when writing ▲

ROUND WIRE SPRINGS—4-page folder "31 Assortment" describes kit of round wire springs intended for both general shop applications and for use in development or experimental departments—issued by Paragon Spring Co., 4615-17 W. Fulton St., Chicago 44, Ill.

▲ Mention Item NED-4447 when writing ▲

ELECTRON TUBES—25 x 36-inch wall chart printed in color shows how electron is freed in electron tubes, basic structural types of tubes, action of gas-filled and vacuum tubes, and six primary functions—price is $2—issued by Westinghouse Electric Corp., 306 Fourth Ave., Pittsburgh 30, Pa.

▲ Mention Item NED-4448 when writing ▲

HOLE PUNCHING UNITS—8-page illustrated bulletin CJ describes type CJ hole punching units for mild steel up to ¼-inch thick—pedestal die permits punching holes in angles and channels as well as in sheet material—issued by Wales-Strippit Corp., 363 Payne Ave., North Tonawanda, N. Y.

▲ Mention Item NED-4449 when writing ▲

FANS & ACCESSORIES—28-page illustrated catalog Unit X5749 gives design and construction specifications with complete performance data on various types of desk fans, air circulators, ceiling fans, ventilators, and exhaust and cooler fans—available upon letterhead request—issued by Emerson Electric Mfg. Co., 8100 Florissant Ave., St. Louis 21, Mo.

▲ Mention Item NED-4450 when writing ▲

CEMENTED CARBIDE TOOLS—16-page illustrated bulletin No. GT-199 which is supplement to general cemented carbide tool catalog lists new products, specifications and price changes—included are boring tools and bars, lengths of solid unground Carboloy rod, solid ground balls, steel holder for use with diamond impregnated wheel dressers and carbide blanks for threading tools—issued by Carboloy Co., 11163 E. Eight Mile Rd., Detroit 32, Mich.

▲ Mention Item NED-4451 when writing ▲

STEAM CLEANING UNIT—12-page illustrated booklet form No. 6327R describes Oakite-Vapor mobile heavy duty steam cleaning and paint stripping unit—it can be used for cleaning wide variety of processing and fabricating equipment and removing many types of deposits from floors, walls and ceilings—unit provides safe operation where inflammable or volatile vapors are present—issued by Oakite Products, Inc., 32G Thames St., New York 6, N. Y.

▲ Mention Item NED-4452 when writing ▲


*Adjustable*
**MULTI-DRILL**
for Production Drilling

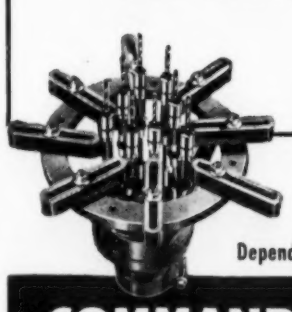
**9" DRILLING AREA—** AVAILABLE WITH 2 TO 8 SPINDLES

- Designed for accurate, high speed production drilling
- RUGGED CONSTRUCTION
- Quick, easy adjustments to **any** hole pattern on or within a 9" circle; ½" minimum center distances; Drill sizes 1/32" to ⅜"
- Special adaptations available

Model 900

**MULTI-DRILLS are made in other sizes and models. Write for details and name of your nearest Distributor**

1947 MACHINE TOOL SHOW
Booth No. 328 E



**Locater arms are designed for fast, easy adjustment.**

***FITS ANY DRILL PRESS***
Dependable Performance....proven by industry

**COMMANDER MFG. CO.**
4220 W. Kinzie Street • Chicago 24, Illinois

▲ Mention Item NED-4453 when writing ▲



IF YOU WANT
*ELECTRONIC HEAT CONTROL...*

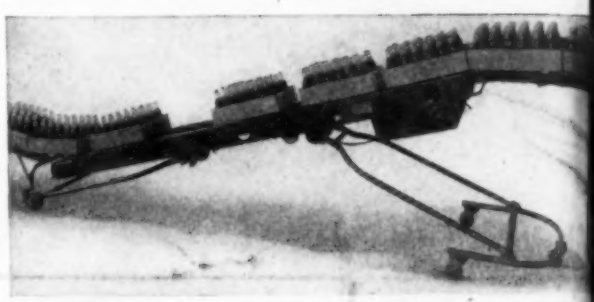
Here's the story of the simplified, moderately priced Alnor Electronic Pyrometer Controller.
This bulletin describes several of the many advantages in automatically controlling or maintaining heat in industrial furnaces, ovens and kilns—in fact, in all heating devices using electricity, gas or oil. The Alnor Controller is made by instrument technicians, is sensitive enough for laboratory use, rugged enough for grueling industrial service. Today, while you are thinking of it, send for Bulletin No. 3197-C. **ILLINOIS TESTING LABORATORIES, INC.**, Room 529, 420 N. La Salle Street, Chicago 10, Illinois.

**Alnor** PRECISION INSTRUMENTS FOR EVERY INDUSTRY

▲ Mention Item NED-4454 when writing ▲



*Another* **Tote-All**
**Time-Saving, Labor-Saving CONVEYOR**



the light conveyor that can take it!

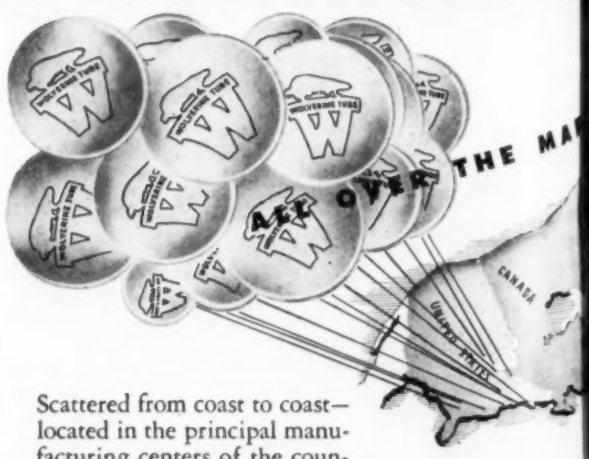
*the new* **Tote-All**
**PACKAGED MATERIAL ZEPHYR**

Tote-All does it again! Now a light-weight portable conveyor for handling boxes, crates, cartons, bags, etc. Saves time and labor costs loading and unloading cars and trucks and stacking in warehouses. Conveyor weighs only 22 lbs. complete with electric motor and under-carriage. Carries 40 lbs. to the foot, distributed load. Operates from ordinary lighting circuit. 16-ft. length . . . 8-in. belt . . . corrosion and abrasion resistant. Either end of conveyor may be raised to 6 ft. height or conveyor may be used horizontally as power booster for gravity conveyors. Write for Bulletin M-12. A product of MATERIAL MOVEMENT INDUSTRIES, INC., 310 S. Michigan Ave., Chicago 4, Ill.

**mmi material movement industries**
*. . . for lowest cost material handling*

▲ Mention Item NED-4455 when writing ▲






Scattered from coast to coast—located in the principal manufacturing centers of the country—are Wolverine representatives—not mere somebodies sporting Wolverine identities—but individuals thoroughly familiar with the tube industry, ready to work with you on any problems concerning tubing or its applications.

And backing each of these men—here at the Detroit Mill—is a supporting organization of trained engineers whose extensive experience can be drawn on to augment your own facilities.

*Consult the listings in your telephone directory for the representative in your city.*

**WOLVERINE TUBE DIVISION**
CALUMET & HECLA CONSOLIDATED COPPER COMPANY
MANUFACTURERS OF SEAMLESS COPPER & BRASS TUBING
1411 CENTRAL AVENUE • DETROIT 9, MICHIGAN

▲ Mention Item NED-4456 when writing ▲

Universal Drill Bushings, in standard and special types, have superhoned bores which assure positive, lasting accuracy in your drilling, reaming, and tapping operations. They speed precision production, reduce costly tool breakage. Order direct or from the Universal warehouse nearest you: 89 Main St., Ansonia, Conn., or 5629 Sixth St., Kenosha, Wisc.

UNIVERSAL ENGINEERING CO. • FRANKENMUTH, MICHIGAN

▲ Mention Item NED-4457 when writing ▲



It's New!

Electro-Hydraulically Controlled

OILGEAR VARIABLE DELIVERY FEED PUMP

For nearby or remote mounting

Small size fits space available in your machine design

Simple construction easy to service

For Machine Tool and Other Straight Line Feeds

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## New Literature—Continued

**AUTOMATIC CONTROL SYSTEMS**—56-page illustrated catalog No. 8302 contains information on electric and pneumatic automatic control systems—control devices and safeguards are described fully with complete schematic diagrams, dimensional drawings, photographs, specifications, range charts, etc.—issued by Brown Instrument Co., 4529 Wayne Ave., Philadelphia 44, Pa.

▲ Mention Item NED-4459 when writing ▲

**FLOOR TRUCKS**—36-page illustrated catalog No. 50 shows and presents specifications for complete line of standard and special purpose hand trucks, dollies, skids, casters and truck wheels—issued by Orangeville Mfg. Co., Orangeville, Pa.

▲ Mention Item NED-4460 when writing ▲

**MAGNETIC CLUTCHES**—20-page illustrated catalog No. 226 covers magnetic clutch application and contains specifications, torque formulas and other information on magnetic friction device control—issued by Stearns Magnetic Mfg. Co., 653 S. 28th St., Milwaukee 4, Wis.

▲ Mention Item NED-4461 when writing ▲

**CORRUGATED BOXES**—Illustrated handbook "How to Engineer Corrugated Shipping Boxes," tenth in "Little Packaging Library" series, describes methods employed in design and construction of new types of corrugated boxes and solutions of general packaging problems—issued by Hinde & Dauch Paper Co., 4267 Decatur St., Sandusky, O.

▲ Mention Item NED-4462 when writing ▲

**TOOLS**—48-page illustrated catalog No. 46 contains diagrams and data on chisel blanks, couplings, dies, die holders, punches, punch stems, rivet sets, and reducing sleeves—table of diagonals and punching pressure formula are included—issued by Geo. F. Marchant Co., 1420-34 S. Rockwell St., Chicago 8, Ill.

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**ANGULAR SET-UP EQUIPMENT**—8-page illustrated bulletin "Precision Equipment for Angular Set-Ups" contains information on Magna-Sine and Univ-Angle magnetic tools and Sine Plate nonmagnetic tool to hold precision work pieces at any desired single or compound angle, and Sine Bars for inspection work—issued by Robbins Engineering Co., 324 Midland Ave., Detroit 3, Mich.

▲ Mention Item NED-4464 when writing ▲

**MAGNETIC SEPARATORS & PULLEYS**—6-page illustrated bulletin "For Positive Removal of Tramp Iron and Steel in Processing" shows different styles of permanent magnetic separators and pulleys together with application drawings to indicate how these units are adapted to different types of manufacturing and processing operations—issued by Homer Mfg. Co., Dept. I-25, Lima, O.

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**SLURRY PUMP**—16-page illustrated bulletin No. 181 contains performance charts showing how to select a slurry pump to insure maximum life of wearing parts when pumping any one of three basic types of slurries each containing different percentage of solids—design and applications of type R slurry pump are outlined—issued by Morris Machine Works, 150 E. Genesee St., Baldwinsville, N. Y.

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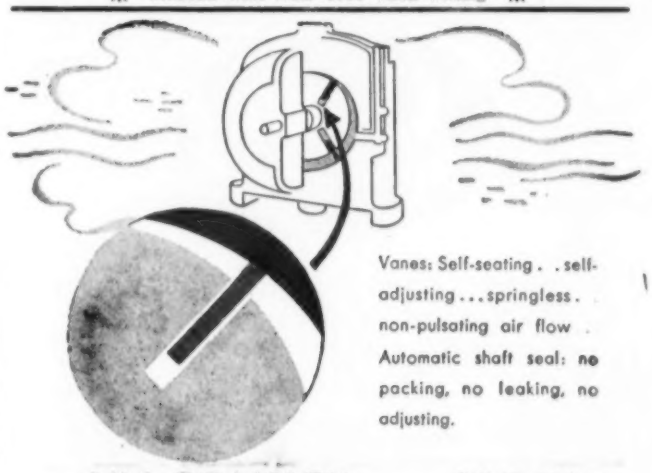

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## New Literature—Continued

**ROLLER CHAIN ENGINE DRIVES**—12-page illustrated booklet "The Diamond Diesel Drive Dozen" contains series of examples of timing, pump, generator, blower, exciter and other auxiliary drives—installation views and schematic drawings show engine applications—issued by Diamond Chain Co., 457 Kentucky Ave., Indianapolis 7, Ind.

▲ Mention Item **NED-4474** when writing ▲

**HARDWOOD PALLETS**—4-page illustrated folder on Generalift pallets provides technical data on construction including assembly, deckboards, stringers, nails, and chamfers—issued by General Box Co., Corner of Dearborn & Illinois Sts., Chicago 10, Ill.

▲ Mention Item **NED-4475** when writing ▲

**INDUSTRIAL INCOME DIVISION**—53-page booklet by Sherman Rogers "Don't Kill the Goose" is intended to correct public misunderstanding regarding manner in which industrial income is divided between employees and owners—figures compiled by U. S. Government and National Industrial Conference Board are presented to refute common fallacies—price $1.50—published by DeVorss & Co., 843 S. Grand Ave., Los Angeles 14, Calif.

▲ Mention Item **NED-4476** when writing ▲

**INSULATION TESTER**—12-page illustrated bulletin No. 21-60-20 describes Bridge-Meg type of Megger insulation and resistance tester which is designed for use in insulation resistance tests and for all types of coil, resistor and circuit measurements—issued by James G. Biddle Co., 1316 Arch St., Philadelphia 7, Pa.

▲ Mention Item **NED-4477** when writing ▲

**POWER FACTOR**—208-page illustrated technical handbook "Power Factor in Your Plant" by W. C. King provides practical answers to questions relating to power factor—text, formulas, graphs and sample problems aid maintenance and electrical engineers in maintaining or improving power factor of electrical systems in their plants—price is $3—published by Cornell-Dubilier Electric Corp., 1047 Hamilton Blvd., South Plainfield, N. J.

▲ Mention Item **NED-4478** when writing ▲

**ELECTRICAL EQUIPMENT**—12-page illustrated catalog No. FB147-45 fully describes all types of industrial electric wiring watertight floor boxes and receptacles, combination floor extension sets, floor outlet type receptacles, heavy duty floor receptacles, plugs and associated accessories—issued by Russell & Stoll Co., 125 Barclay St., New York 7, N. Y.

▲ Mention Item **NED-4479** when writing ▲

**PROTECTIVE CLOTHING**—20-page illustrated catalog No. 16 shows and describes aprons, foot and leg protectors, gloves and mittens, goggles, welders' apparel, women's protective clothing, sleeves and other safety clothing—issued by Olympic Glove Co., 95 Madison Ave., New York, N. Y.

▲ Mention Item **NED-4480** when writing ▲

**PERMANENT MAGNETS**—16-page illustrated booklet "Permanent Magnets, Their Use, Design & Fabrication" contains discussion of advantages and limitations of permanent magnets in many present and potential applications—technical data on all known magnet materials and basic design formulas are included—issued by Thomas & Skinner Steel Products Co., 1070 E. 23rd St., Indianapolis, Ind.

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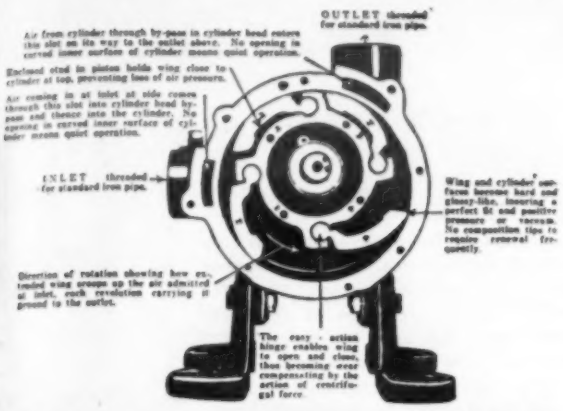


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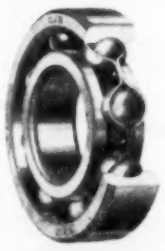

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July, 1947


## New Literature—Continued

**BOILER AUXILIARIES**—24-page illustrated bulletin No. CR-1 covers line of condensation return units and boiler feed pumps—tables simplify selection of proper unit to meet practically every set of conditions—issued by Deming Co., Dept. NE, Salem, O.

▲ Mention Item NED-4488 when writing ▲

**GRILLES & REGISTERS**—20-page illustrated catalog No. 47TF presents complete description, detailed engineering data and list prices of line of Tri-Flex grilles and registers for air distribution in air conditioning installations—issued by Tuttle & Bailey, Inc., New Britain, Conn.

▲ Mention Item NED-4489 when writing ▲

**LARGE VOLUME PUMPS**—24-page illustrated bulletin No. B-148 presents information on propeller and Mixed Flow type Hydro-Foil pumps for regulation and control of large volumes of water—they embody air foil design utilized in water lift for drainage, irrigation and industrial applications—capacities range up to 220,000 gallons per minute—issued by Peerless Pump Div., Food Machinery Corp., 301 W. Ave. 26, Los Angeles 31, Calif.

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**JIG & FIXTURE PARTS**—8-page illustrated catalog No. 2 contains drawings and prices of standard parts for jigs, fixtures, dies, gages, tools and machinery—includes hand knobs, quarter-turn screws, spherical washers, C-washers, jig feet and locating keys—issued by George F. Bub & Son, 11413 Madison Ave., Cleveland 2, O.

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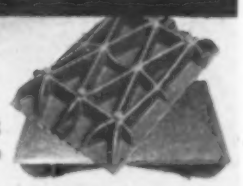

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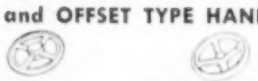

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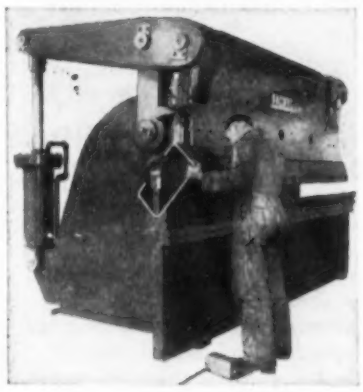

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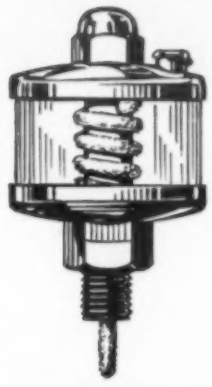

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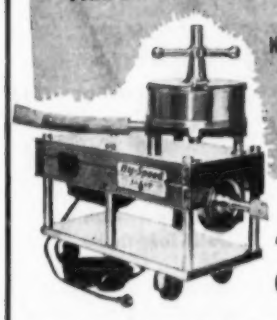

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## Index to Products


A

Abrasive Products . . . 24, 27, 35, 37, 50, 63
Adhesives . . . 31, 51
Air Conditioning . . . 5
Alloys, Wear Resistant . . . 53
Awnings . . . 5

B

Barometer . . . 41
Battery Charger . . . 44
Bearings; Ball, Roller & Thrust . . . 7, 16, 59, 64
Bearings, Bronze 10, 16, 43, 46
Bearings, Needle . . . 29
Belt Fasteners . . . 32
Belting . . . 64
Belts, Conveyor . . . 1, 50, 57
Bins & Boxes, Parts . . . 22, 36, 64
Boxes & Crates, Wooden . . . 17, 56, 62
Brazing Equipment . . . 15
Brazing Materials . . . 33
Buckets, Crane . . . 32
Building Materials . . . 50, 51, 55
Bushings, Drill . . . 57
Buying Guide . . . 9

C

Calculators . . . 15
Capacitors . . . 34, 58
Car Spotter . . . 25, 47
Castings . . . 59
Castings, Alloy . . . 8, 12
Cements, Repair . . . 52
Chains . . . 9, 10
Chucks . . . 51, 62
Chucks, Magnetic . . . 29, 45
Clamping Devices . . . 12, 38, 54
Cleaners, Air . . . 5, 7, 39, 41
Cleaners, Brush . . . 63
Cleaners, Vacuum . . . 25, 31, 42
Cleaning Machines . . . 6, 52, 56
Cleaning Materials . . . 7, 49, 55, 64
Clutches . . . 4, 22, 29, 52, 57
Coffee Brewer . . . 41
Communications Equipment . . . 23, 30, 56
Compressors, Air . . . 7, 29
Condensation Preventive . . . 64
Connectors, Electric . . . 38
Controls, Electric . . . 7, 11, 15, 21, 23, 25, 34, 36, 43, 46, 47, 49, 51, 52, 54
Controls, Level . . . 28
Controls, Pneumatic 8, 22, 39, 55
Controls, Pressure 5, 25, 34, 57
Controls, Temperature . . . 5, 25, 34, 44, 49, 54, 57
Convectors . . . 27
Conveyor Accessories . . . 7, 40
Conveyors . . . 1, 4, 9, 20, 28, 32, 33, 36, 41, 45, 46, 49, 54, 56
Coolant Units . . . 22
Cooling Tower . . . 9
Counting Devices 1, 6, 45, 56
Couplings, Flexible . . . 3, 40, 58
Crane Accessories . . . 5, 8
Cranes 20, 27, 29, 40, 45, 62
Cutter, Scrap . . . 40
Cylinders, Air & Hydraulic 29, 30, 45, 49, 51, 53, 55, 61

D

Deodorants . . . 49
Die Casting Machines . . . 35
Die Cushions . . . 40
Die Heads . . . 37
Dies, Adjustable . . . 3, 24
Door Operator . . . 59
Doors, Industrial . . . 38
Drafting Equipment . . . 16, 50
Drain Cleaner . . . 28
Drill Heads, Adjustable 10, 35, 56
Drives, Machine 25, 44, 47, 58
Drives, Variable Speed . . . 2, 9, 10, 27, 38, 46
Dust Collectors . . . 17, 19, 20, 22, 23, 36, 38, 44

E

Electronic Equipment . . . 56
Elevating Equipment . . . 13, 14, 15, 18, 35, 62
Engines, Gasoline . . . 2, 13, 50, 55

F

Fans & Blowers 19, 21, 56, 64
Fastening Devices . . . 2, 15, 21, 30, 42, 43, 54, 62
Feeders . . . 6, 55
Felt Products . . . 34
Files . . . 6, 32
Filtering Equipment 25, 26, 55, 60
Finishes . . . 54
Finishing Equipment, Spray . . . 16, 27
Fire Extinguishing Equipment . . . 14, 22
Flexible Shaft Machines . . . 3
Floats . . . 47
Floor Machines . . . 42
Floor Resurfacers . . . 2, 26, 28, 50, 53, 54, 61, 63, 64
Flooring Materials . . . 4, 31, 42, 50, 53
Flux, Soldering . . . 41
Furnaces, Industrial . . . 15, 30, 40, 61, 64

G

Gages, Precision . . . 12, 45, 57
Gages, Pressure & Temperature . . . 51
Gearing . . . 10, 33, 54, 58
Gloves, Industrial . . . 6, 55
Gloves, Neoprene . . . 62
Grinders, Tool & Cutter 11, 20
Grinding Machines . . . 11, 13, 46

H

Heat Exchangers . . . 27
Heaters, Compound . . . 24, 52
Heaters, Electric . . . 4, 48, 55
Heaters, Induction . . . 9, 28
Heaters, Unit . . . 16, 21, 25, 46
Heaters, Water . . . 35
Hoists . . . 6, 17, 25, 29, 30, 58
Hollow Ware, Fiber . . . 39
Honing Equipment . . . 10
Hose & Accessories . . . 12, 38
Hose, Flexible Metal . . . 51, 56
Housings, Fan . . . 30

I

Infrared Equipment . . . 52
Insecticide Sprayer . . . 19
Inspection Equipment . . . 21
Instruments, Electric . . . 3, 31
Insulation, Thermal . . . 43

J

Jacks . . . 35, 52
Jacks, Leveling . . . 43
Jigs & Fixtures . . . 59
Joints, Expansion . . . 26
Joints, Swing . . . 60
Joints, Universal . . . 11

L

Labels . . . 54, 57
Ladders . . . 13
Lathes . . . 12, 17, 33, 54
Lighting Equipment . . . 2, 19, 54
Lubricants . . . 20
Lubricating Equipment 24, 41, 60



SIMPLIFY truck battery charging . . .

Save long hauls and lost time in keeping truck batteries charged and on the job! New Westinghouse Rectox rectifiers can be set down anywhere in the plant where trucks can park. No special foundations or wiring. Safe, dependable operation. Get full details in Booklet B-3642. Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh, Pennsylvania. J-21398

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Bulletin SW 22 describing the STURTEVANT "Sensory" (High speed production torque wrenches).

P. A. STURTEVANT CO.
ADDISON QUALITY ILLINOIS

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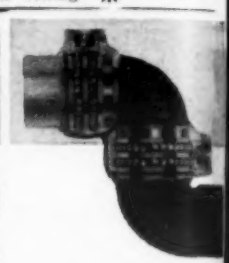
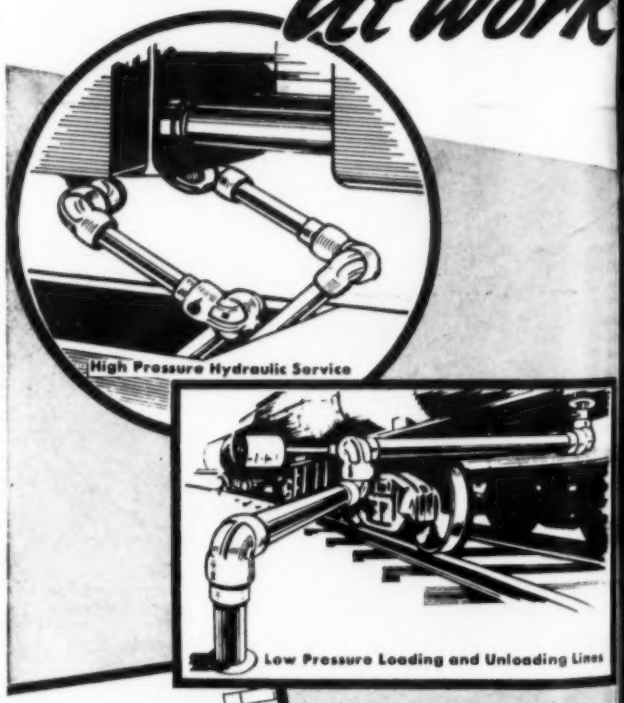
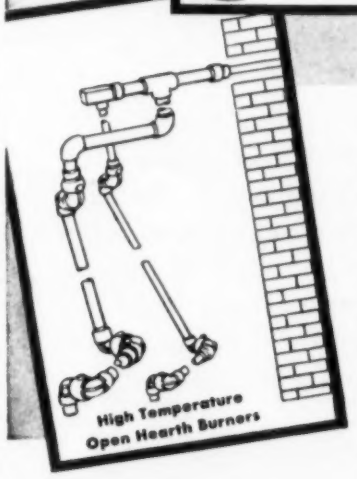


**BALL BEARING SWIVEL JOINTS**

*At work*




Look around you and you will see CHIKSAN *Ball-Bearing* Swivel Joints at work in many different applications...from low pressure loading and unloading lines to high pressure hydraulic equipment and under high temperatures on boilers and open hearth furnaces. CHIKSAN Swivel Joints are made in over 500 different Types, Styles and Sizes...for pressures from 300 psi to 12,000 psi and temperatures to 500° F....for full 360° rotation in 1, 2 and 3 planes...with threaded or flanged ends or bored for welding.

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*REPRESENTATIVES IN PRINCIPAL CITIES*

EXPORT REPRESENTATIVE: Chiksan Export Co., Brea, California
Branches: New York 7, Houston 2

CHIKSAN — BALL BEARING SWIVEL JOINTS FOR ALL PURPOSES — CHIKSAN COMPANY BREA, CALIFORNIA

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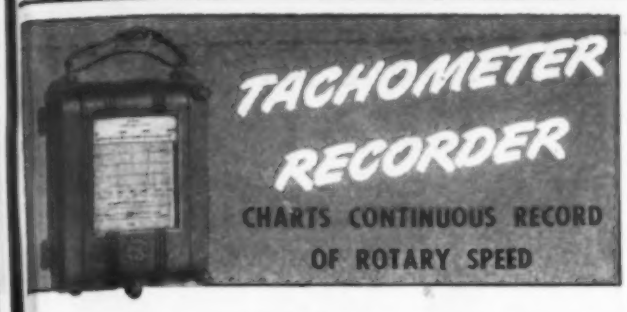


For jobs where a continuous record of rotary speed is required, this General Electric inkless tachometer recorder, known as the Type CF-3, has proved highly satisfactory. With no ink to spill, it requires little maintenance and can operate continuously on one record roll for as long as thirty days.

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602-110

**GENERAL ELECTRIC**

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**NEW SPEED-CAPACITY-ACCURACY IN CUTTING OFF METALS**

**The JOHNSON METAL CUT-OFF BAND SAW**

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Dept. NED-18

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## Products Index—Continued


**M**

Machine Tools ... 7, 40
Machine Tool Accessories 2, 4, 11, 19, 22, 32, 33, 36, 44, 53, 58
Magnetic Equipment ... 8, 13, 57, 58, 64
Management ... 58, 60
Marker, Floor ... 8, 26
Marking Equipment ... 16, 18, 26, 40, 47
Materials Handling Equipment 30, 32, 33, 38, 47, 52, 58
Materials Handling, Overhead ... 35, 57
Mats, Floor ... 9, 14, 17
Metal, Laminated ... 18
Metallizing Equipment ... 58
Milling Machines ... 50
Mills ... 7, 23, 40, 42
Mixing Equipment ... 26, 27
Motor Protectors ... 37
Motors, Electric ... 1, 17, 23, 36, 30 33, 39, 59

**O**

Office Equipment ... 5
Oils, Penetrating ... 6
Ovens, Industrial ... 21, 46

**P**

Packaging Materials ... 45, 57
Packers ... 55
Panels, Electric ... 37
Parts, Precision ... 21, 25, 46
Pipe & Fittings ... 7, 10, 11, 15
Pipe Locator ... 3
Pipe Tools & Machines ... 4, 23, 24, 39
Plastics ... 15, 43, 54, 58, 64
Plating Equipment ... 51
Polishing Machines ... 31, 42
Power Units, Hydraulic 11, 25, 57
Press Brake ... 59
Presses, Hydraulic ... 16, 35, 42, 45, 48
Presses, Punch 2, 33, 37, 54, 63
Process Equipment ... 19
Pullers, Packing ... 26
Pumps ... 13, 14, 19, 20, 24, 46, 57, 59, 63
Pumps, Coolant ... 25
Pumps, Vacuum ... 57, 59
Punches, Adjustable ... 33, 56
Pyrometers ... 9, 56

**R**

Ramp, Loading ... 1
Recorders, Production ... 30
Rectifiers ... 27, 38, 60
Reels, Stock ... 37, 43
Refrigeration Equipment ... 48
Regulators, Voltage ... 34
Relays ... 17, 42, 53
Reproduction Equipment ... 48
Rerailers, Car ... 34
Resistors ... 19
Respirators ... 8
Rest, Work ... 4
Rheostats ... 27
Riveting Equipment ... 44, 49, 54, 55, 57
Rivets, Blind ... 20
Rolls ... 12
Roofing Materials ... 16

**S**

Safety Equipment ... 8, 12, 23, 30, 58
Sanding Machine ... 14, 28, 39
Saws, Metal Cutting ... 11, 61
Saws, Woodworking ... 18
Scaffolding ... 39
Scales ... 18, 29, 50
Screens, Vibrating ... 33
Screwdriver, Power ... 48
Screwdriver, Torque ... 16
Seals ... 2
Shaft Hangers ... 48
Shapers ... 15
Shears ... 10, 13, 28, 31, 36
Shop Equipment ... 1, 21
Shredders, Paper ... 41
Sling ... 9
Solenoid ... 31
Sound System ... 14
Speed Reducers ... 39
Spray Equipment ... 41
Springs ... 28, 56
Sprinkler, Water ... 14
Staples ... 47
Steel ... 4
Stencil Equipment ... 18
Stitcher, Wire ... 2
Strapping, Steel ... 53
Stripper, Paint ... 45
Surface Plates ... 59

**T**

Tachometers ... 53, 61
Tacker, Hand ... 46
Tags ... 38
Tape, Industrial ... 16
Tapping Machine ... 36
Telephone Booths, Acoustic ... 34
Testing Equipment ... 8, 13, 20, 36, 50, 55, 58
Thermometers ... 21, 22
Timing Devices ... 40, 47
Tools, Boring ... 26
Tools, Carbide ... 56
Tools, Cutting ... 5, 18, 19, 41, 44, 64
Tools, Electrical Maintenance ... 5
Tools, Hand ... 34, 37, 57
Tools, Pneumatic ... 11, 12, 31, 36, 42, 58, 61
Tools, Portable Electric ... 14, 22, 44, 62, 63, 64
Tools, Soldering 3, 37, 43, 45, 47
Tools, Stud Driving ... 8
Tractors, Industrial ... 12, 28
Traps, Steam ... 22, 36, 44
Trolleys ... 3
Truck Bodies, Dumping ... 31
Trucks, Hand ... 5, 7, 11, 13, 14, 38, 39, 48, 57
Trucks, Industrial Power ... 32, 37, 43, 49
Tube Fabricating Equipment ... 24
Tubing & Fittings ... 4, 13, 14, 55, 56
Tubing, Flexible Metal ... 6, 55
Tungsten Carbide ... 49

**V**

Valve Reseater ... 29
Valves ... 2, 23, 34, 37, 52, 61
Ventilating Equipment ... 20, 43, 59
Vibration Absorbers ... 1
Vibrators ... 55
Vises ... 35, 39, 49

**W**

Water Cooler ... 42
Water Treating Equipment 27, 32
Welding Accessories ... 13, 15, 17, 31, 41, 42, 54, 55
Welding & Cutting, Gas ... 5, 9, 35
Welding, Electric ... 17, 18, 23, 44, 48, 64
Weldments ... 51
Wheel Dressers ... 10
Wheels, Industrial ... 8, 24, 32
Winches ... 6
Wire Cloth ... 24
Wire, Electric ... 6
Wire Rope Accessories ... 4
Wiring Accessories ... 1, 3, 12, 18, 24, 32, 58
Wood Preservative ... 18
Wrenches ... 22, 37
Wrenches, Torque ... 60

**DANGEROUS SPOTS**

are hazardous . . . whether on a jungle beast or in your floors. While the appearance of a leopard on your premises is remote, the appearance of dangerous spots in your floors is always possible. Guard against the hazards of broken, rough floors. Repair dangerous spots instantly, with SPEED-PATCH . . . world's finest fastest floor fixer. Easy to apply . . . just fill hole with Speed-Patch, tamp solid and truck over it immediately. Takes only one minute per sq. ft. Comes ready-mixed. Get details NOW!

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Manufacturers of a Complete Line of Building Maintenance Materials

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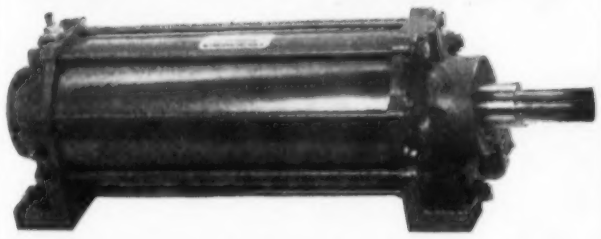
**AIR CYLINDERS**



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3. Available in all popular mounting styles, single or double acting, 1½" to 10 inch bore size, any length stroke desired.

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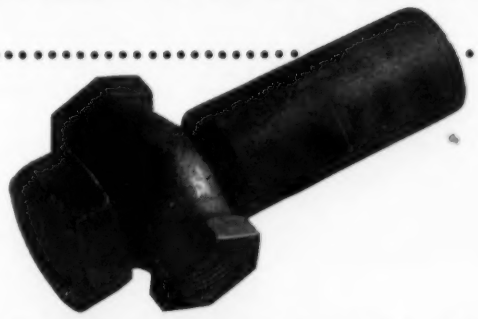
**BETWEEN MINIMUM AND OPTIMUM PERFORMANCE WITH SOLENOID HIGH VACUUM VALVES**



• New DPI High Vacuum Solenoid Valves give instant control over high vacuum systems • Save time and effort by eliminating manual controls • Ideal in manufacture of refrigerator units . . . with trolley exhaust systems and rotary machines.

*For Full Information* WRITE

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Vacuum Equipment Division
DISTILLATION PRODUCTS, INC.
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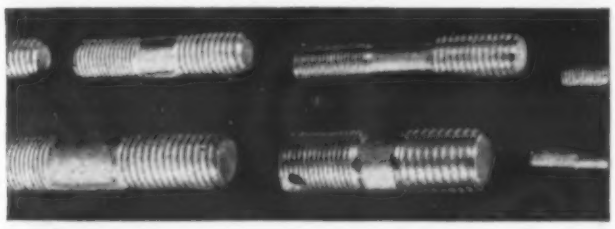

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The "LOK-THRED" design avoids the chief weakness of ordinary interference fit, which places the metal of the receiving thread under shear and thus tends to cause a twisting or splitting action.

"LOK-THRED" locks securely and becomes tighter in service.

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National Studs and Threads Products

THE NATIONAL SCREW & MFG. CO., CLEVELAND 4, O.

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The KETT Tool Company
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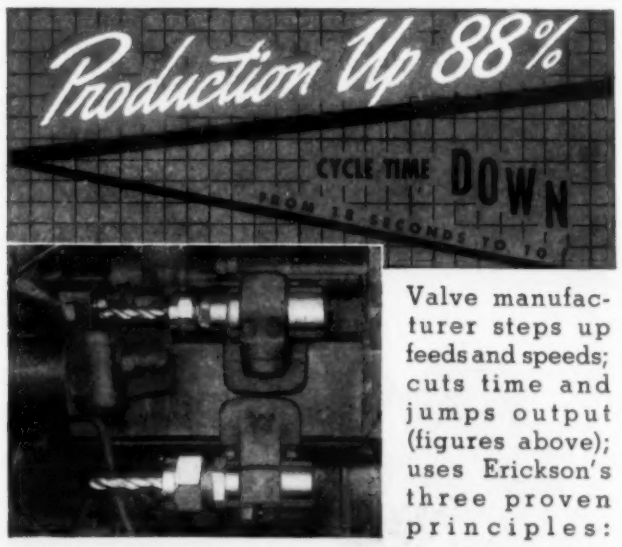


Valve manufacturer steps up feeds and speeds; cuts time and jumps output (figures above); uses Erickson's three proven principles: (1) gripping drill on flutes, permitting stubbing and reducing overhang; (2) rigid grip due to 8-line contact full length of collet and even collapse through 1/32" range; (3) getting .0005" accuracy — no chatter or torn cuts. See what Erickson Collet Chuck Accuracy will do for you.

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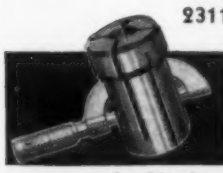

ERICKSON = Collet Chuck Precision

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## Index to Advertisers


A

Accurate Spring Manufacturing Co. 28
Ace Plastic Novelty Co. 64
Adams, R. P., Co., Inc. 5
Aget-Detroit Co. 17
Ahlberg Bearing Company 50
Air-Speed Tool Company 61
Ajax Flexible Coupling Co. 40
Alan Wood Steel Co. 50
Allen-Bradley Co. 46
Allied Products Corporation 24
Allis Chalmers Mfg. Co. 15, 44
Alsop Engrg. Corp. 60
Aluminum Ladder Co. 13
Alvey Ferguson Co., The 6
American Abrasive Metals Company 28
American Air Filter Co., Inc. 23
American Conveyor Co. 36
American District Steam Co. 26
American Emery Wheel Works 63
American Machine & Metals, Inc.—United States Gauge 51
American Mat Corp. 14
American Monorail Co., The 57
American Optical Co. 55
American Screw Co. 30
American Ventilating Hose Co. 49
American Welding & Manufacturing Co., The 51
Ames, B. C., Co. 12
Ammco Tools, Inc. 15
Anderson, V. D., Co., The 36
Apco Mossberg Co. 16
Aro Equipment Corp., The 58
Atlantic Abrasive Corp. 24
Automatic Temperature Control Co., Inc. 2
Automatic Transportation Co. Div. of The Yale & Towne Mfg. Co. 49
Avenue Manufacturing & Sales Co. 17
Avery Adhesive Label Corp. 57

B

Baker-Raulang Co. 43
Bal, William, Corporation 39
Baldwin-Hill 43
Barber-Colman Co. 54
Bay, Inc. 64
Behr-Manning Corp. 35
Bird & Son, Inc. 9
Black Diamond Saw & Machine Works, Inc. 11
Black Mfg. Co., The 16
Blaw-Knox Div., Blaw-Knox Co. 32
Breuer Electric Mfg. Co. 31, [illegible]
Bristol Company, The 34
Brookfield Engineering Laboratories 13
Brown, W. R., Corp. 39
Brown Engrg. Co. 58
Brown & Sharpe Mfg. Co. 29
Browning Mfg. Company, Inc. 2
Bruning, Charles, Co., Inc. 16
Bryant Products Co. 35
Burgess-Manning Company 34
Burndy Engrg. Co., Inc. 32
Buschman, E. W., Co., Inc., The 49

C

Cabot, Samuel, Inc. 63
Cambridge Wire Cloth Co., The 57
Campbell Box & Tag Co. 38
Cannon Electric Development Co. 14
Carboloy Co., Inc. 10
Carver Pump Company 63
Century Electric Co. 39
Chapman Chemical Company 18
Chicago Drillet Corporation 10
Chicago Mfg. & Distributing Co. 20
Chicago Rivet & Machine Co. 44
Chicago Tool & Engrg. Co. 11
Chicago Wheel & Mfg. Co. 64
Chiksan Company 60
Cincinnati Machinery Co., Inc. 7
Clark Controller Co. 11
Clark Manufacturing Co., The 44
Cleco Pneumatic Tool Division of The Reed Roller Bit Company 11
Cleveland Crane & Engrg. Co., The 35
Columbus - McKinnon Chain Corp. 9
Commander Mfg. Co. 56
Commercial Shearing & Stamping Co., The 30
Cone Drive Div., Michigan Tool Co. 39
Cover, H. S. 8
Crane Co., The 52
Cunningham, M. E., Co. 26
Cuno Engineering Corporation 26
Curtis Pneumatic Mchry. Div., Curtis Mfg. Co. 58
Cutler-Hammer, Inc. 36
Cyclohm Motor Corp. 59

D

Dart, E. M., Manufacturing Co. 11
Dayton Rogers Mfg. Co. 40
Deming Co., The 20
Dempster Bros., Inc. 31
Detecto Scales, Inc. 50
Detroit Power Screwdriver Co. 48
DeWalt Products Corp. 18
Di Machine Corp. 2
Diamond Machine Tool Co. (Los Angeles) 33
Dickerman, H. E., Mfg. Co. 37
Distillation Products, Inc. 61
Downs Crane & Hoist Co. 5
Dravo Corporation 16
Dresser Industries Inc. 12
Dresser Mfg. Division, Dresser Industries Inc. 12
Durametallic Corp. 26
Durant Mfg. Co. 6

E

Eastern Industries, Inc. 14
Economy Engineering & Mfg. Corp. 62
Electric Controller & Mfg. Co., The 23
Electro Refractories & Alloy Corp. 27
Ellinwood Industries 2
Emerson Electric Manufacturing Co., The 19
Engineering Products Co. 51
Enterprise Machine Parts Corp. 43
Erickson Tools Division 62
Executone, Inc. 56

F

F & M Sales Co. 33
Fafnir Bearing Co., The 16
Fairfield Mfg. Co. 58
Federal Products Corp. 45
Felters Co., The 34
Fenn Manufacturing Co., The 51
Fenwal, Inc. 49
Ferguson, Harry J., Co. 20
Fisher Equipment Co. 7
Flexible Steel Lacing Co. 32
Flexrock Co. 64
Food Machinery Corp. 39
Foote Co., Inc., The 27
Formica Insulation Co., The 43
Formsprag Company 52
Foxboro Co., The 5
Fulflo Specialties Co., Inc. 25

G

Gast Mfg. Corp. 57
General Box Co. 17
General Controls 25
General Electric Co. 6, 21, 34, 48, 53, 61
General Plate Division of Metals and Controls Corp. 18
General Scientific Equipment Co. 19
Globe Phone Mfg. Corp. 3
Goodrich, B. F., Co. 20
Goodrich, B. F., Chemical Co. 58
Gorton, George, Machine Co. 19
Gothard Division, E. F. Johnson Co. 54
Gray Hub Co. 3
Greaves Machine Tool Co., The 33
Guardian Electric Mfg. Co. 42



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**Stanzoils** with amazing new non-slip fingers

● Extra-tough DuPont neoprene, Pioneer processed, assures Stanzoils high resistance to oils, acids, caustics — they outlast rubber gloves 3 to 7 times, give low-cost-per-hour protection, avoid costly injuries. New positive non-slip finish grips wet things as if dry, gives workers assurance, speed. Standard styles, sizes—ask your supplier for Stanzoils or write for catalog.

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. . . assure yard efficiency that adds to your profits.

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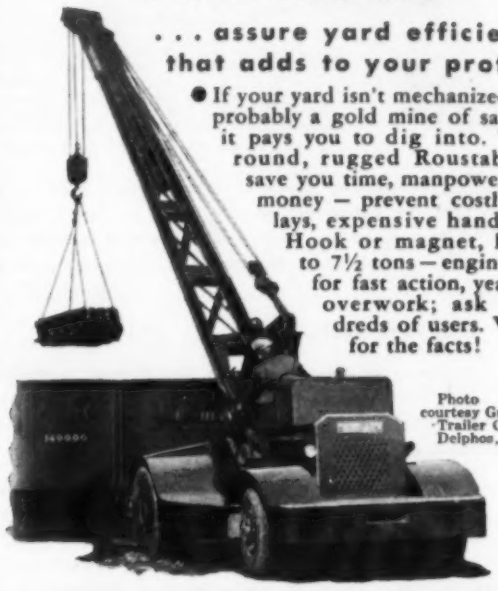

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565 Newman Street . . . Mansfield, Ohio

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By Hughes-Keenan
Load-Handling Specialists Since 1904

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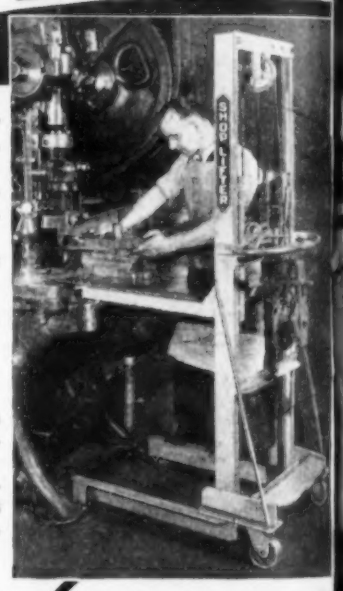

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•

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•

Easily moved about on the 4" diameter wheels.

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Platform, steel plate, 24"x24"
Overall height—6'0"
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Other Economy Lifting Machines of heavier capacities up to 5000 lbs. available. Write for catalog.

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Full Freight Allowed

ECONOMY ENGINEERING CO.

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**PUNCH PRESSES**

- ☆ Rigid one-piece cast semi-steel frame
- ☆ Longer ram guides
- ☆ "Non-shear" pivoted-dog clutch
- ☆ Available in both flywheel or back-geared drives
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RICHMOND, CALIFORNIA
Vernon Press Division
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**. . . for peak performance**
. . on every job

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Designed and built for efficient operation and thoroughly dependable service these pumps give maximum performance and full pumping economy on every job.

Compact in every way these capable pumping units have fewer "working" parts. May be installed in any position. For belt drive or direct connected to motor or other power source. Capacities from 40 to 900 GPM and heads up to 180 feet. Ask for Bulletin 201A.
Carver Pump Co., Muscatine, Iowa

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High Production Snagging Wheels

Improved Snagging Wheels, developed by "American" for either high or low speed machines, hog off surplus metal *faster!* Their rapid cutting action and clean stock removal lowers snagging costs on floor stands, swing, and portable grinders. These "American" Wheels are made with Carbolite or Aluminox abrasives and special bonds —Vitrified for low speeds and Resinoid for high speeds. They have long wheel-life and are ideal for grinding steel castings and snagging forgings. Let us prove "American" Wheels will snag more units per day in your foundry—whether iron, steel or malleable.

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## Advertisers Index—Continued


**H**

H & H Research Co. 14
Hallemite Mfg. Co., The 50
Hamilton Tool Company, The 36
Hannifin Manufacturing Co. 30, 49
Hansen, A. L., Mfg. Co. 46
Harnischfeger Corp. 17, 44
Hart Manufacturing Company, The 51
Hebard, W. F., & Co. 28
Hein-Werner Motor Parts Corp. 35
Hertner Electric Co., The 44
Hill Acme Company, The 45
Hobart Bros. Co. 23
Homer Manufacturing Co., Inc., The 8
Homestead Valve Mfg. Co. 23
Hughes Keenan Co., The 62
Hunt, Rodney, Machine Co. 12
Huppert, K. H., Co. 21
Hyster Company 40

**I**

Ideal Industries, Inc.
Illinois Testing Laboratories, Inc. 8, 56
Independent Pneumatic Tool Co. 22
Industrial Equipment Co. 20
Industrial Gear Mfg. Co. 10
Industrial Products Company 11
Ingersoll-Rand 12
Inland Steel Co. 4
International Manufacturing Co. 8
International Nickel Co., The 31

**J**

Jeffrey Mfg. Co., The 6
Johnson Bronze Co. 43
Johnson Mfg. Corp. 61
Jones, Howard B., Division Cinch Mfg. Corp. 37
Jones & Lamson Machine Company 37
Jones Motrola Corp. 53
Joy Manufacturing Co., Sullivan Div. 7

**K**

Kano Laboratories 6
Keller Tool Co. 31
Kent-Owens Machine Co. 50
Kester Solder Co. 41
Kett-Tool Co., The 62
Kirk & Blum Mfg. Co., The 36
Klemp, Wm., F., Co. 31
Knu-Vise, Inc. 54
Krieg, Charles W., Company 33

**L**

Leavitt Machine Co., The 29
Leeds & Northrup Co. 9
Lehigh Foundries, Inc. 39
Leiman Bros. 59
Lima Electric Motors Co., The 47
Lincoln Electric Co., The 55
Linde Air Products Co., The 9
Link-Belt Co. 47
Littell, F. J., Machine Co. 43
Logan Co., Inc. 4
Logan Engrg. Co. 12, 39
Logansport Machine Co., Inc. 51
Lovejoy Flexible Coupling Co. 10
Lyon Metal Products, Inc. 9
Lyon-Raymond Corp. 15, 38

**M**

McCord Corporation 21
Machine Products Corp. 59
MacRae's Blue Book 9
Maguire, Walter, Co., Inc. 42
Manco Products Co. 48
Marsh Stencil Machine Co. 18
Martindale Electric Co., The 5
Master Electric Co., The 25
Material Movement Industries 56
Mathews Conveyer Co. 32, 33
Matthews, Jas. H., & Co. 47
Maxwell, F. A., Company 5
Mead Specialties Co. 53
Mercoid Corporation, The 49
Metallizing Engrg. Co., Inc. 58
Metzgar Co. 41
Micro Switch Corp. 47
Mining Safety Device Co. 34
Mitts & Merrill, Inc. 41
Moisture Register Co. 50
Monroe Company, Inc., The 26
Mortell, J. W., Co. 64

**N**

National Pneumatic Company 41
National Production Co. 4
National Screw & Mfg. Co., The 62
Nelson, Herman Corporation, The 43
Newark Wire Cloth Co. 24
Niagara Blower Co. 27
Nicholson, W. H., & Co. 47
Nicholson File Co. 32
Norma-Hoffman Bearings Corp. 7
North Bros. Mfg. Co. 49
Norton Co. 37

**O**

Oakite Products, Inc. 55
O'Brien Steam Specialty Co. 35
Ohio Nut & Bolt Company, The 42
Ohio Tool & Engrg. Co., The 28
Ohmite Mfg. Co. 19
Oilgear Company, The 57
Oil-Rite Corp. 60
Olympic Glove Company, Inc. 6
Onan, D. W., & Sons 50

**P**

Pacific Industrial Mfg. Co. 59
Paisley Products, Incorporated 31
Palmer Thermometers, Inc. 21
Pangborn Corp. 38
Paper Novelty Mfg. Co. 16
Parker Manufacturing Company 31
Pawtucket Manufacturing Company 30
Peerless Electric Co., The 30
Penetone Co., The 7
Pereny Equipment Co. 15
Pioneer Rubber Co., The 62
Pneumatics, Incorporated 6
Production Instrument Co. 56
Progressive Mfg. Co., The 21
Punch-Lok Company 12

**R**

R.B.M. Division, Essex Wire Corp. 15
Ran Corporation 63
Rapids-Standard Co., Inc., The 28
Rauland-Webster Sound Div. Rauland Corp., The 23
Reliance Electric & Engrg. Co. 27
Revolvator Co. 14
Reznor Mfg. Co. 25
Rhode Island Tool Co. 25
Ridge Tool Co., The 23
Robbins & Myers, Inc., Hoist & Crane Div. 29
Rockford Clutch Div., Borg-Warner Corp. 22
Rock-Tred Corp. 61
Rockwood Sprinkler Co. 14
Ronald Press Company, The 60
Rotary Lift Co. 35
Russell & Stoll Co. 38
Ryerson, Jos. T., & Son, Inc. 4

**S**

Sabin Machine Co., The 48
Sarco Co., Inc. 22
Schrader's, A., Son, Inc. 38
Schramm, Inc. 29
Scientific Research 5
Scully-Jones and Company 4
Sedberry, J. B., Inc. 40
Seelauton Company, Inc. 53
Selby Battersby, & Co. 54
Service Recorder Co., The 30
Sheldon Machine Co., Inc. 33
Shenango-Penn Mold Co. 46
Signode Steel Strapping Co. 53
Sly, W. W., Mfg. Co., The 19
Smooth-On Mfg. Co. 52
Snap-On Tools Corp. 22
Solar Electric Corporation 12
South Bend Lathe Works 17
Sparkler Mfg. Co. 55
Speedway Mfg. Co. 44
Spencer Thermostat Co. 37
Spencer Turbine Co., The 25
Sprague Electric Co. 34
Spray Engrg. Co. 41
Stackbin Corp. 22
Standard Locknut & Lockwasher, Inc. 2
Standard Pressed Steel Co. 21, 37, 48, 54
Stanley Tools 59
Sta-Warm Electric Co. 24
Stearns Magnetic Mfg. Co. 64
Stephens-Adamson Mfg. Co. 25
Stonhard Company 63
Strand, N. A., & Co. 3
Sturtevant, P. A., Co. 60
Sunnen Products Co. 10
Sunroe Refrigeration Co. 42
Superior Tube Co. 14
Sweet, H. C., Co. 8
Synthane Corp. 15
Syntron Co. 2, 55

**T**

Tal's Prestal Bender, Inc. 24
Taylor & Fenn Co., The 37
Taylor-Winfield Corp., The 17
Templeton Kenly & Co. 52
Thermo Electric Mfg. Co. 61
Thew Shovel Co., The 27
Timken Roller Bearing Co., The 64
Tinnerman Products, Inc. 15
Titchener, E. H., & Co. 47
Titeflex, Inc. 6
Toledo Scale Co. 29
Toledo Timer Co., The 46
Tomkins-Johnson Co., The 18
Torit Mfg. Co. 20
Torrington Co., The 29, 46
Tri-Clover Machine Co. 4
Turco Products Inc. 45

**U**

Union Carbide & Carbon Corp. 9
Union Chain & Mfg. Co. 10
Union Metal Mfg. Co., The 32, 33
United Electric Controls Co. 7
United Gilsonite Laboratories 16
United Laboratories, Inc. 2
United States Electrical Tool Co., The 13
United States Gauge-Division American Machine & Metals Inc. 51
Universal Engineering Co. 57
Upton Electric Furnace Div. Commerce Pattern Foundry & Machine Co. 40

**V**

V&E Mfg. Co. 50
Valvair Corp. 8
Van Dorn Div. of Black & Decker Mfg. Co. 63
Veeder-Root, Inc. 45
Vickers Inc. 11
Vulcan Electric Co. 52
Vulcan Tool Co. 58

**W**

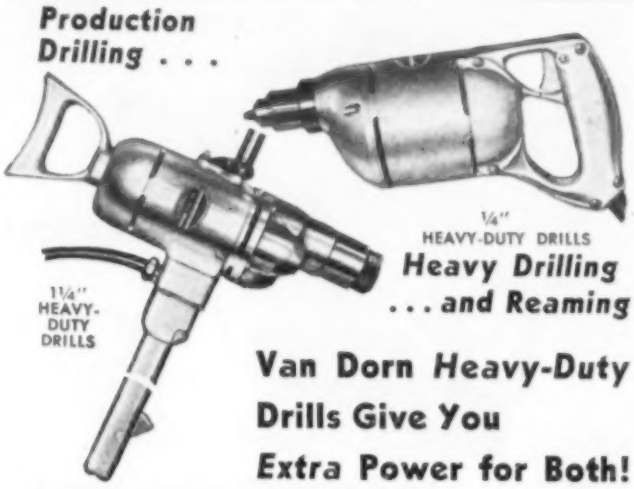
Walker, O. S., Co., Inc. 45
Walker Turner Company, Inc. 35
Wall Colmonoy Corporation 53
Wallace & Tiernan 41
Ward Leonard Electric Co. 27
Weatherhead Co., The 13
Wedge Protectors, Inc. 13
Welded Construction Engineering Co. 5
Welding Equipment & Supply Co. 41
Wellman Bronze & Aluminum Co., The 8
West Bend Equipment Corp. 13
West Disinfecting Co. 19
Westinghouse Electric Corp. 3, 38, 54, 60
Weston Electrical Instrument Corp. 22
Whistler, S. B. & Sons, Inc. 3
Wiegand, Edwin L., Co. 4, 55
Wilson, K. R. 45
Wirebound Box Manufacturers Ass'n. 62
Wisconsin Motor Corp. 13
Wolverine Tube Division 56
Wood Conversion Company 45
Worthington Pump & Machinery Corp. 46

**Y**

Yale & Towne Mfg. Co., The 18
Yarnall-Waring Company 7
Young Radiator Co. 27



**Production Drilling . . .**

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(DIV. OF BLACK & DECKER MFG. CO.)
PORTABLE ELECTRIC TOOLS

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Play Safe!

**USE THE NON-INFLAMMABLE BRUSH CLEANER**

Fire is a major hazard in any paint shop. You increase this danger if you clean your brushes with inflammable liquids! *Play safe* . . . use Cabot's *non-inflammable* Brush Cleaner. Cabot's cleans brushes right down to the heel . . . leaves bristles soft, flexible, lustrous. Non-evaporating. Can be used over and over.

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**Cabot's BRUSH CLEANER**

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**At no obligation to us please send a maintenance guide and information about STONHARD RESURFACER.**

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Building Maintenance Materials • Since 1922
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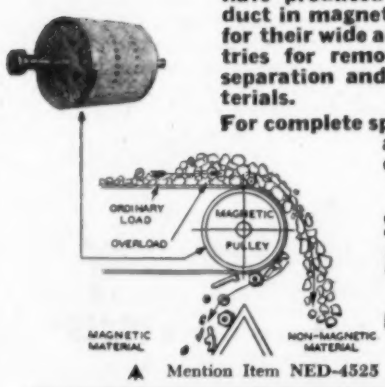
**For complete specifications and operating data write for our new Bulletin 303.**




**Stearns Magnetic Manufacturing Co.**
**653 S. 28th St.**
**Milwaukee 4 Wis.**
**Clutches—Brakes—Magnets**

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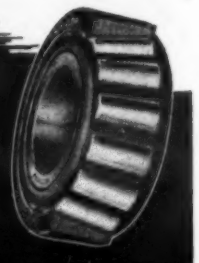

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Equipment of any kind performs better, lasts longer and costs less for operation and maintenance when all moving parts are protected by Timken Tapered Roller Bearings.

It can operate faster because it is not retarded by friction; it possesses greater endurance because radial, thrust and combined loads constantly are kept in check; and where precision is an essential factor, it can be held to extremely close tolerances under all operating conditions. Look for the trade-mark "TIMKEN" on every bearing that goes in your products. The Timken Roller Bearing Company, Canton 6, Ohio.

**TIMKEN**
TAPERED ROLLER BEARINGS

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▲ Mention Item NED-4528 when writing ▲

RESISTANCE WELDING MACHINES—10-page illustrated catalog describes line of light gage resistance welding machines available in bench and floor models ranging from 1 to 7½ kilovolt-amperes in capacity—issued by Weldex, Inc., Dept. K, 7342 MacDonald Ave., Detroit 10, Mich.

▲ Mention Item NED-4529 when writing ▲

ELECTRIC SALT BATH FURNACES—72-page illustrated catalog No. 116 discusses general advantages of salt bath heat treating and explains electrodynamic self-circulating principle of Ajax-Hultgren furnace—installation photos show variety of mechanisms developed for conveying work through complete series of heat treating operations on mass production basis—available to metallurgists and metalworking executives upon letterhead request—issued by Ajax Electric Co., Frankford Ave. at Delaware Ave., Philadelphia 23, Pa.

▲ Mention Item NED-4530 when writing ▲

PLASTICS—274-page illustrated book "An Introduction to Engineering Plastics" by D. Warburton Brown and Wilbur T. Harris describes various thermoplastic and thermosetting materials and their chemical and physical properties; engineering tests and specifications; laminates; fillers; adhesives; molds and molding process; metal coating, welding and high frequency heating of plastics—data are given on plant and equipment, design considerations and commercial tolerances—materials are listed with their trade names and manufacturers—price is $4—published by Murray Hill Books, Inc., 232 Madison Ave., New York 16, N. Y.

▲ Mention Item NED-4531 when writing ▲

EXHAUST FANS—Two illustrated bulletins Nos. 105 and 107 contain information on direct and belt-drive utility fans and direct drive bucket exhaust fans, respectively—capacities of former range from 3000 to 40,320 cubic feet per minute and latter handle from 850 to 9000 cubic feet per minute—issued by Martin Fan & Blower Co., 4632 W. 21st Pl., Chicago 50, Ill.

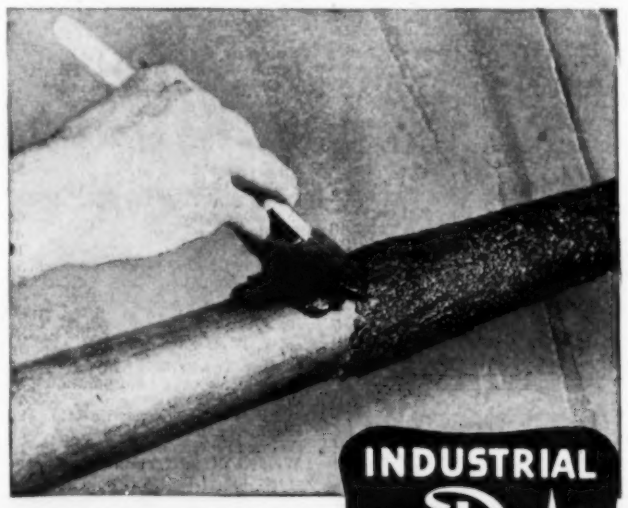
▲ Mention Item NED-4532 when writing ▲

V-BELTS—24-page illustrated catalog "Veelos, the Link V-Belt" describes features and construction details of adjustable V-belt—shows how to couple and uncouple, measure and install it—numerous photographs cover applications in wide variety of industries—issued by Manheim Mfg. & Belting Co., Manheim, Pa.

▲ Mention Item NED-4533 when writing ▲

KEYWAY BROACHES & SETS—12-page illustrated catalog "Minute Man Keyway Broaches and Sets" contains complete information on equipment for hand broaching of any size and depth keyway in any piece of work—reference data on keys and keyways are tabulated—issued by du Mont Corp., Greenfield, Mass.

▲ Mention Item NED-4534 when writing ▲

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**PLASTIC BALLS**
**Fabricated in All Colors**

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Industrial Division
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